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CITY OF DURBAN

Annual Report

OF

CITY MEDICAL OFFICER OF HEALTH

YEAR ENDING 31st DECEMBER, 1955

DURBAN CORPORATION

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No. 1841 GDE/ESL

City Health Department,

640 Smith Street,

DURBAN

1st June, 1956

To His Worship the Mayor and
Councillors of the City of Durban.

Mr. Mayor, Ladies and Gentlemen,

I have the honour to present the fifty-fourth report on the activities of the City Health Department for the year 1955.

Hitherto, it has been customary for the Annual Reports of this Department, in conformity with normal municipal practice, to cover the period from one mid-year to another. In September, 1954, however, the Union Department of Health made a request, in order to have a uniform procedure in common with the one recently adopted by itself that the Annual Reports of all Local Authorities should be based in future on the period covered by a calendar year. Subsequently, this office was advised that the decision as regards the new basis for the compilation of Annual Reports had been taken so as to bring the report of the Union Department of Health into line with the period generally covered by international and other statistical bulletins. It was further intimated at the time that, if, for domestic reasons, Local Authorities found it inconvenient to submit their Reports so as to cover the period of a calendar year, the Union Department of Health would be prepared to accept Reports compiled on the old basis provided statistical data relative to calendar years was made available to that Department. Nevertheless, it was stated that the rendition of complete Annual Reports for the year ending 31st December, would be much appreciated.

In order to comply with the wishes of the Union Department of Health, the last Report issued by this Department covered the six-monthly period ending the 31st December, 1954, and the present document is therefore, the first Annual Report to be completed under the new system; as such, it is, in effect, the fifty-third Annual Report issued by this Department.

During the year under review, my predecessor in office, Dr. G.H. Gunn, retired on pension after almost thirty years service with the City Council.

Qualifying at Edinburgh University, Dr. Gunn arrived in Durban in 1925 to take up the appointment of Assistant Medical Officer of Health and Tuberculosis Officer to this Department. In 1928, Dr. Gunn was promoted City Medical Officer of Health and, whilst holding that appointment, he was responsible for the initiation and development of many major public health programmes. In addition, he was called upon to deal with a number of important health problems, several of which were complicated and peculiar to Durban on account of its geographical position and the multi-racial character of its population. Undoubtedly, the biggest problem Dr. Gunn had to tackle emerged in 1932 when the so-called Added Areas were incorporated within the Borough.

It may surely be said that the former Medical Officer of Health saw, from his own angle, the fulfilment of Durban's motto "Debile Principium Melior Fortuna Sequetur". When he first took up his duties in the days of the old "Model Borough", Durban covered an area of 13 square miles and boasted a population of less than 120,000 souls On his retirement, Durban had been elevated to the status of a City, had expanded to cover an area of 70 square miles and contained a population of just under half-a-million people.

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In concluding this Introduction, I wish sincerely to thank your Worship and the members of the City Council, and especially the Chairman and members of the Public Health Committee, for all the assistance and support accorded to both Dr. Gunn and myself during the year under review. I would also like to express my appreciation of the efficient services rendered by the members of my own staff and for their loyal co-operation. I am also grateful to Dr. Gunn for his assistance in the compilation of this Report. Lastly, I wish to acknowledge the unfailing courtesy and ready co-operation I have at all times, received from the Press.

I have the honour to be,

Ladies and Gentlemen,

Your obedient servant,

G.D.English M.B., D.P.H., D.T.M.&
CITY MEDICAL OFFICER OF HEALTH

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ANNUAL REPORT: 1955

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APPENDIX 'B'

CITY OF DURBAN

REPORT OF THE CITY MEDICAL OFFICER OF HEALTH
for the
YEAR ENDING 31st DECEMBER, 1955.

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I. NATURAL CONDITIONS AND STATISTICS

1. Area and Rateable Value.

Area of Municipality	44,927 acres or 70.2 square miles.	
Annual rateable valuation	1955	1954
Gross value of land	£56,021,410	£55,274,010
Gross value of buildings	£90,901,520	£86,270,450
	£146,922,930	£141,544,460

2. Climate

Durban is situated on the coast at latitude 31° South and longitude 30° East. The altitude varies from sea-level to four or five hundred feet in the inland parts. The climate and vegetation are sub-tropical and there is a high degree of humidity in the summer months.

3. Meterological Data: 1955

Month		Barometer	Temperatures Max.	Temperatures Min.	Relative Humidity	Rainfall: Total for Month	No. of Days on which Rain Fell
January	Mean	30.080	80.6	69.6	77.8	9.41	17
	Max.	30.242	87.0	76.0	98.0		
	Min.	29.868	68.0	62.0	53.0		
February	Mean	30.011	80.8	70.13	82.1	3.42	13
	Max.	30.234	87.0	74.0	97.0		
	Min.	29.766	72.0	66.0	71.0		
March	Mean	30.101	80.3	68.3	77.0	6.69	12
	Max.	30.386	88.0	74.0	100.0		
	Min.	29.798	75.0	63.0	60.0		
April	Mean	30.091	77.9	65.9	77.4	2.97	11
	Max.	30.342	86.0	72.0	90.0		
	Min.	29.866	71.0	58.0	48.0		
May	Mean	30.206	73.9	61.0	79.5	0.67	5
	Max.	30.402	78.0	69.0	95.0		
	Min.	30.032	68.0	55.0	63.0		
June	Mean	30.219	72.0	56.5	69.4	1.33	6
	Max.	30.500	81.0	66.0	86.0		
	Min.	29.970	62.0	49.0	44.0		
July	Mean	30.176	72.5	55.12	67.1	0.29	2
	Max.	30.544	80.0	65.0	84.0		
	Min.	29.815	67.0	51.0	43.0		
August	Mean	30.120	72.2	56.9	67.3	0.88	7
	Max.	30.480	78.0	65.0	81.0		
	Min.	29.752	63.0	48.0	43.0		
September	Mean	30.248	71.7	59.4	68.7	4.67	8
	Max.	32.510	81.0	73.0	94.0		
	Min.	29.824	60.0	51.0	47.0		

Month		Barometer	Temperatures Max.	Min.	Relative Humidity	Rainfall: Total for Month	No. of Days on which Rain Fell
October	Mean	30.120	73.2	62.0	75.8	2.86	11
	Max.	30.732	81.0	72.0	99.0		
	Min.	29.134	66.0	52.0	41.0		
November	Mean	31.299	75.2	63.2	77.0	4.29	17
	Max.	30.454	83.0	69.0	95.0		
	Min.	29.811	65.0	59.0	56.0		
December	Mean	30.000	78.1	67.4	74.1	4.12	12
	Max.	30.252	88.0	77.0	96.0		
	Min.	29.551	73.0	61.0	58.0		
					Total	41.6	121

4. Population

The estimated population compared with the 1951 census figures is as follows:

	Census 1951	Estimated 1955
Europeans	129,227	148,800
Coloured	14,895	18,700
Bantu	134,273	167,500
Asiatic	144,916	166,220
	423,311	501,220

Vital statistics are handicapped by lack of accurate information. The estimated figures are based on an overall percentage increase per annum at a rate agreed to by the Director of Census and Statistics. True figures are probably considerably in excess of those shown.

5. Births

Birth statistics are recorded from two sources at present. Births registered are those registered under the Births, Deaths, and Marriages Act of 1923, and the figures are obtained from the office of the Electoral Officer. Births notified are those reported to the local authority direct under the early notification of births regulations (Section 133 of the Public Health Act). In theory they should amount to the same but in practice there are usually more registrations than notifications. For European and Coloured births the registration figures can be regarded as accurate; for Asiatics they are less so. Many Bantu births escape registration mainly because of ignorance of procedure on the part of the parents. On the other hand the number of notifications is nearer the true number of births as in urban areas a greater proportion of all Bantu births occur in hospitals or under the aegis of the district midwifery service. The hospital or the nurse becomes in practice the notifier of the birth although legally the onus is on the father of the child. Thus, when compiling birth rates the registered births are used for Europeans and Coloured persons and the notified births for Indians and the Bantu. The birth rates quoted below are based purely on available statistics and bear to the true birth rates an unknown ratio which is fairly close for Europeans, but less so for non-Europeans.

(i) Births

	Births Registered		Births Notified		Birth Rate per 1,000 Population
	Local	Imported	Local	Imported	(Local)
European	3,166	708	2,916	646	21.3%
Coloured	802	57	763	56	40.7%
Bantu	-	-	4,980	5,844	30.3%
Asiatic	-	-	5,754	380	34.6%
All Races	-	-	14,403	6,934	-

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(ii) Illegitimate Births.

European	35 or 1.1%	
Coloured	41 or 17.0%	
Bantu	3,166 or 64.0%	(based on notification forms)
Asiatic	97 or 1.6%	" " " "

(iii) Still Births

(See Chapter 15)

6. Deaths

The following summary reflects the deaths and death rates for 1955. The figures have been corrected for outward transfer only:

	Deaths	Crude Death Rate (Per 1,000 population)	Infant Deaths	Infant Mortality (Per 1,000 live births)
European	1,411	9.76	53	17.9
Coloured	181	9.99	46	60.2
Bantu	3,498	21.93	1,532	- *
Asiatic	1,661	10.29	404	70.2
	6,751	13.96	2,035	140.7

* Note: Infant mortality in the Bantu. As the number of Bantu births is not accurately known, it is not possible to compute this figure. On the data available, it works out at 307.6, the true figure must therefore lie somewhere below this number.

Under new regulations promulgated in 1952 the recording of deaths is now more accurate for all races. Because of the factors mentioned under paragraph (4) "Population", however, the death rates are probably lower than those reflected. The death-rate figures have increased slightly for all races in comparison with those of 1953-54. The infant mortality figures have dropped for Europeans, but risen slightly for Coloureds and Asiatics.

For further death statistics see Chapter 15 (Maternity and Child Health).

II. INFECTIOUS DISEASES

General

The epidemic of poliomyelitis, referred to in this Department's last Report, continued for a few months into the year under review.

In February, whilst that epidemic was abating, an explosive outbreak of the so-called "Mystery Disease", or Iceland Fever, broke out at the Addington Hospital and cases were subsequently reported from that institution over a period of several weeks. Once the new disease was recognised, cases were notified from amongst the City's general population and also elsewhere in Natal. Whilst it is now evident that the infection was abroad in Natal and the Transvaal before, during, and after the summer of 1954/1955, the highest incidence of the disease occurred in Durban towards the end of the summer, the brunt of the attack being borne by the members of the nursing staff of the abovementioned Hospital.

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An account of the outbreak at the Hospital with a description of the investigations carried out by this Department are included in this Report in the form of appendices.

No case of formidable epidemic disease was notified during the year.

On the 20th December, the local office of the Union Health Department reported that two adult smallpox contacts had left Waterval Boven en route to Durban and that they proposed to take up their residence at a given address. No such address was known. Through the co-operation of the Railway Administration and the local Press, the contacts were traced to a new Railway housing scheme at Mount Vernon. As both contacts, husband and wife, had not been vaccinated and as it emerged further that the patient was their own child, they were isolated at the Wentworth Hospital for a period of eleven days. Neither developed smallpox.

Hospital Admissions.

In accordance with the terms of an agreement entered into between the City Council and the Natal Provincial Administration, the isolation and treatment of infectious cases is undertaken in local Provincial hospitals. This arrangement has proved invaluable to the Department as it has conserved the time of its members for the initiation and maintenance of other important health programmes.

During the year, 538 European City cases were admitted to the Wentworth Hospital and 668 non-European cases to the King Edward VIII Hospital. The corresponding figures for the year 1953/1954 were 506 and 846 respectively.

III. OTHER COMMUNICABLE OR PREVENTIBLE DISEASES

Typhoid.

During 1955, notifications of City cases numbered 100 compared with 92 during the year 1953/1954. These comprised Europeans 8, Coloureds 3, Asiatics 16, and Bantu 73. Fifty-five of the Bantu patients resided in the Cato Manor area. City deaths numbered 8, all Bantu.

Imported cases numbered 108 comprised as follows: Europeans 8, Asiatics 21 and Bantu 79. Included in the imported cases are 6 Indian patients - all in their twenties or early thirties - who at the beginning of the year or shortly before this contracted the infection whilst under detention at the Central Gaol. The investigations into the origin of these cases were carried out by the Union Department of Health. In May, a batch of five Indian patients, who resided at Richmond Farm, Inanda, were admitted to a Durban hospital for treatment.

Amongst the Bantu imported cases was a group of five patients who were admitted during January and February to the McCord Zulu Hospital from a kraal in the Umbumbulu area and a further group of seven patients who sickened during March at a sugar estate on the South Coast.

An analysis of the notifications shows that typhoid fever was endemic in the Cato Manor area throughout the year and that 31 out of the 55 cases notified occurred during the period February to May.

The endemicity of the disease at Cato Manor and the occurrence of small localised outbreaks in the neighbouring districts

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of the City serve to underline the importance of all householders in Durban keeping a watchful eye on the health of their servants especially those who are engaged in the preparation of food.

This situation also shows the necessity for the Vi-test to be carried out on all non-European food-handlers (especially prior to their engagement) employed in residential institutions for young people. During the year the managements of all such institutions were approached and urged to have their servants tested and immunised. The response was good.

During December, two cases of typhoid fever occurred amongst the farm hands of a "B" class dairy supplying milk to a pasteurising concern in Durban. Precautionary measures were instituted and no further cases occurred.

Diphtheria.

Notifications numbered 280, comprising Europeans 75, Coloureds 34, Bantu 102, and Asiatics 69. This figure shows a slight increase in the number of notifications attributable to an increased prevalence amongst the Coloured and Asiatic sections of the community, when compared with the 260 cases recorded for the year 1953/1954. Twenty-one of the Bantu cases contracted the infection in the King Edward VIII Hospital.

The Department's immunisation service against diphtheria was introduced in 1944. At that period, the population of the City was estimated to be 282,892 and the diphtheria notifications recorded that year numbered 599. At present, Durban has a population estimated at 501,220, which is approximately a 70% increase on the figure for 1944. However, despite this appreciable increase in the population over a period of eleven years, the diphtheria notifications amount to only 45% of the number recorded in 1944. This comparison demonstrates very clearly the value of Council's immunisation service but the position is by no means as satisfactory as it might be owing to the lack of co-operation found amongst the poorer sections of the community. This is especially true of both the Bantu and Asiatic groups.

It is of interest to observe that the highest number of notifications of City cases namely 44, was received during the month of May.

Typhus.

No cases of epidemic or murine typhus were reported during the year. The continued absence of murine typhus is noteworthy: the last case was notified during the year 1952 and was the only case reported that year.

Poliomyelitis.

The poliomyelitis outbreak, which commenced in September, 1954, reached its maximum intensity towards the end of that year when 45 and 28 City cases were notified during the months of November and December respectively.

However, the advent of the New Year marked a change for the better. In January, 16 cases were notified followed by 24 in February. By March, the acute phase of the epidemic terminated and only 10 cases were reported that month. Nevertheless, sporadic cases continued to occur throughout the year and there was certainly no return to the previous state of affairs when, at times, no cases were reported for months on end.

In November and December the number of notifications increased and the year ended on a note of uncertainty and with a certain amount of apprehension as to what future monthls held in store.

The notifications for the year numbered 81 with no deaths.

City Poliomeylitis Cases: January - December, 1955

Month	E	C	B	A	Total
January	12	-	3	1	16
February	21	1	2	-	24
March	8	1	1	-	10
April	3	-	-	-	3
May	1	-	-	-	1
June	2	-	-	-	2
July	1	1	-	-	2
August	2	1	-	-	3
September	2	1	-	-	3
October	1	-	-	1	2
November	5	-	1	1	7
December	8	-	-	-	8
Total	66	5	7	3	81

The age and race distribution was as follows:

European

Sex	0 - 5 yrs.	6 - 16 yrs.	17+ yrs.	Total
Male	15	9	6	30
Female	14	11	11	36
Total	29	20	17	66

Coloured

Male	4	-	-	4
Female	1	-	-	1
Total	5	-	-	5

Bantu

Male	3	-	1	4
Female	2	-	1	3
Total	5	-	2	7

Asiatics

Male	2	-	-	2
Female	1	-	-	1
Total	3	-	-	3

Summary (All Races)

Male	24	9	7	40
Female	18	11	12	41
Total	42	20	19	81

The exceptionally low incidence of the disease in the Asiatic is noteworthy.

As to the future, it may well be asked whether all major South African cities and towns will not henceforth follow the same pattern of events as has occurred in Europe and America where the large urban areas have become the foci for recurrent and severe outbreaks of the disease. If so, the establishment and maintenance of full-scale immunisation programmes for all races has become an urgent public health necessity.

Encephalitis.

During 1955, 16 cases of encephalitis were notified of which 10 were European. In all the aetiology was undetermined.

Scarlet Fever.

Eighty-three cases were notified - all European. This figure reveals a satisfactory decline in the prevalence of the disease when compared with the numbers for the year 1953/1954 and the six-monthly period ending 31st December, 1954 when 103 and 104 cases were notified respectively.

Cerebro-spinal Meningitis.

In comparison with the year 1953/1954, the number of notifications decreased from 23 to 14. The latter group of cases comprised Europeans 7, Bantu 4, and Asiatics 3. Considering the overcrowded,and at times grossly overcrowded, conditions under which many of the non-Europeans live, the slight incidence of the disease in the City must be regarded not only as satisfactory but also as fortunate.

Leprosy.

Only 6 cases were notified as against 17 for the year 1953/1954. All cases were Bantu and the usual precautionary measures were carried out by the Union Department of Health.

Undulant Fever.

No City cases were reported during the year. One imported case, a European female aged 14 years, was notified during the month of August.

Other Infectious Diseases Notified (City cases)

	European	non-European
Erysipelas	2	-
Puerperal Sepsis	-	8

Bilharziasis.

During the year, the Department maintained close collaboration with the local office of the Union Department of Health on the subject of the control of bilharziasis. It is anticipated that the next Annual Report will contain a full account of the outcome of the discussions which took place during 1955.

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Food Poisoning.

During the year several cases of food poisoning or suspect food poisoning occurred. The details are as follows:

(i) Suspect Arsenic Poisoning.

This Department investigated an out-break of suspected food poisoning in an office situated in a large City block. It transpired that 12 out of 14 European employees, together with 3 non-Europeans had sickened shortly after partaking of afternoon tea. Of the total of 15 persons affected, one person had taken cocoa instead of tea and another had no sugar with his tea. The common factors were milk and water which had been consumed by all those affected. The milk was considered least likely to be involved as there was a possibility of two different supplies having been used. A sample of the water actually used for making tea and cocoa and which still remained in the tea urn was chemically analysed and found to contain sufficient arsenious oxide to cause arsenic poisoning. The matter was referred to the Criminal Investigation Department for further action.

(ii) Tinned Meat.

In January, a husband and wife and their two children suffering from food poisoning were admitted to Addington Hospital and discharged after a short period of detention. Their supper the previous evening had consisted of tinned meat, tinned peas, bread, butter and tea. They noticed that one tin opened easily giving the impression that it had been badly soldered. The contents of the tin - which were eaten immediately - were a mixture of solids and semi-solids and had a rather peculiar odour but no bad taste. The major portions of the meat were eaten by the father and son, and most of the peas were eaten by the mother and daughter. Both males were extremely ill, whereas the females were only slightly affected. Specimens of the same brand of tinned meat from the same consignment were purchased by the Department and on examination were found to be sound.

(iii) Unidentified Food Poisoning: Imported Case.

A paint-manufacturing company director arrived in Durban by air from Port Elizabeth at 7.30 p.m. on the 20th April, 1955, met his local representative and dined at a well-known restaurant at 10.30 p.m. The meal consisted of cultured mushrooms, grilled steak, chip-potatoes, fresh beans and peas. Half-way through the meal, the director felt extremely ill and suffered from diarrhoea. A doctor was called in and prescribed treatment. Both persons had identically the same food in the restaurant, and the local representiative suffered no ill effects whatsoever. It is therefore concluded that the infection was not local.

(iv) Blown Peas.

During May, a family comprising three members was admitted to the Addington Hospital on suspicion of food poisoning. The family had dined at about 6 p.m. the previous evening, and became ill at varying times between 6.45 p.m. and 10 30 p.m. The meal consisted of minced-meat rissoles, mashed potatoes and peas. All members of the family, except the mother and the Bantu servant girl had tinned peas. The mother did not have peas as she thought they tasted sour and smelt bad. The cases recovered and were discharged about 36 hours later.

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The tin of peas was found to be blown. Remaining stocks of this particular brand of peas were examined and all were found to be satisfactory.

(v) Tri-ortho-cresyl-phosphate Poisoning.

History of Outbreak

From the middle of November, the Department investigated an outbreak of paralysis occurring in the Cato Manor area. The total number of persons affected numbered eleven, comprising eight adults and three children. Ten of the cases resided at or were frequent visitors to one particular shack. The eleventh case lived in another shack some distance away.

The Department first noted the occurrence on the 15th November, 1955, when the three affected children were notified by the King Edward VIII Hospital as suspected cases of poliomyelitis. On investigation at the shack, two adult females were discovered suffering from a similar disorder. They were admitted to hospital on the 16th November, 1955. Further enquiries disclosed that three members of the family had sickened about the middle of July, 1955, and were still receiving treatment in this institution. It was further ascertained that the remaining two inhabitants of this shack, adult males, had been admitted to hospital on the 14th and 15th November, 1955, after having been ill for only a few days. The eleventh case, who lived in a different shack, refused to be admitted to hospital.

It was then ascertained that this last mentioned case worked at a local paint factory along with the head of the household at the other shack and that both had sickened in July, 1955.

Medical Diagnosis

This was established as being not poliomyelitis, but as a polyneuritis with involvement of motor and sensory nerves, due to some toxic agent.

Clinical Progress of Cases

Of the ten cases admitted, four were out of hospital and six were still in hospital receiving treatment on December 31, 1955.

The first case to leave hospital was discharged soon after admission having recovered fully. The remaining three all left hospital against medical advice in December, 1955, still suffering from paralysis. They refused re-admission.

The six cases remaining in hospital made slow progress and showed slight improvement.

Technical Investigations at King Edward VIII Hospital

Tests were made to disclose a possible chemical or bacterial cause of the condition. They consisted of blood examinations for the presence of abnormal cells; blood agglutinations for virus infection; X-rays of long bones for the presence of lead; and laboratory examinations of patients' stools and urine for evidence of metals and chemicals and for isolation of viruses. All results proved negative.

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Investigations carried out by City Health Department.

1. Inspections in loco for evidence of any possible toxic contaminants of food and drink at the shack. In this connection it was found that two small metal drums were in daily use, one for the storage of drinking water, and the other for the carrying of water from the nearest water tap. One of these drums showed evidence of remnants of old paint;

2. These drums, plus samples of the water which they contained, were examined by the City Analysts, but all findings were negative;

3. Bulked samples of urine from the patients in hospital were also forwarded to the City Analysts for chemical examination, but again nothing abnormal was detected;

4. Joint meetings took place between this Department's staff and the staff of King Edward VIII Hospital at which all aspects of the outbreak were reviewed;

5. This Department investigated certain conditions at the paint facto concerned, particularly the question of storage and handling of tr ortho-cresyl-phosphate. It seems probable that the drum found at the shack emanated from the factory.

Conclusions

No definite cause has been found to account for this outbreak of paralysis, but circumstantial evidence points to the ingestion of tri-ortho-cresyl-phosphate as being the probable cause.

IV TUBERCULOSIS

Vital Statistics

The number of known cases of all forms of tuberculosis including quiescent cases, was given in the last annual report as being, approximately:

European:	1,089
Coloured:	696
Bantu:	4,466
Asiatic:	2,721
Total:	8,972

As very large numbers of Bantu cases, both City and imported cases, keep moving into and out of Durban without this Department's knowledge, it is no longer possible to give reliable figures. The tuberculosis picture in Durban has become progressively clouded during recent years.

Notifications

The number of City cases notified during the year 1955 was 2,118 of which 280 were non-pulmonary cases. Taking into consideration the increase in population, this compares favourably with the total notifications for the three preceding twelve-month periods i.e. (in reverse order) 1,822, 2,022 and 2,033. Thus the notification-rate has declined in spite of a greatly-intensified case-finding programme.

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Deaths

Deaths amongst City cases during 1955, numbered 431, of which 119 occurred in cases of non-pulmonary tuberculosis. The proportion of non-pulmonary to pulmonary deaths has increased of late years.

The death-rate from pulmonary tuberculosis for all races combined has increased from 0.56 per 1,000 of the population for the year ending June, 1954, to 0.65. This is the only occasion during the last seven years on which the death-rate has not shown a decrease. The detailed death-rate figures are as follows:

Year	E.	C.	B.	A.	All Races
1953-4	0.11	0.95	1.23	0.26	0.56
1955	0.06	0.33	1.69	0.17	0.65

The increased death-rate recurred in respect of Bantu only, the other three races showing a wholesome decrease.

Deaths from tuberculosis amongst Bantu numbered 359 (270 pulmonary and 89 non-pulmonary) in 1955 as compared with 234 (192 pulmonary and 42 non-pulmonary) for the year ending June, 1954. This is a matter which will require careful analysis, as several factors enter the picture: e.g. the number of City Bantu in hospital is smaller than hitherto, but the hospital 'turn-over' is greater. Attracted by the out-patient facilities now available, larger numbers of imported cases are residing in Durban. Presumably many are being regarded as Durban residents. Also it is possible that many of the deaths registered occur amongst cases resident in Durban for only very short periods.

It may also be noted at this stage that the estimated present Bantu population is based on the 1951 census and that the accepted formula for calculating the present population may be unsuitable and inadequate from the viewpoints of natural increase and migration. There are grounds deserving investigation for a belief that Durban's Bantu population is considerably larger than is indicated by official figures. If this contention is correct it follows, of course, that the death-rate index will be lower.

A somewhat similar situation prevailed some ten years ago when the death-rate in 1946 showed a phenomenal fall as compared with 1945; 1946 was a census year and the census revealed that the Bantu population in 1945 was greatly underestimated.

Tuberculosis Statistics: City Cases

	European	Coloured	Bantu	Asiatic	Total
(a) Notifications					
(i) Pulmonary	154	101	1,341	242	1,838
	(168)	(85)	(1,061)	(288)	(1,602)
(ii) Non-pulmonary	12	13	189	66	280
	(8)	(13)	(145)	(54)	(220)
(b) Deaths					
(i) Pulmonary	8	6	270	28	312
	(15)	(17)	(192)	(42)	(266)
(ii) Non-pulmonary	4	2	89	24	119
	(1)	(5)	(42)	(13)	(61)

Hospital Facilities

Durban is fortunate in being comparatively well-provided with beds for tuberculosis cases. As a result, cases do not have to remain for very long on the waiting list.

Cases are admitted to the following institutions in or near Durban which contain the indicated number of beds for tuberculosis:

Hospital	Authority	E.	C.	B.	A.	All Races
King George V.	Union Government	144	70	850	220	1,284
Point non-European	Provincial Government	-	-	150	-	150
McCord Zulu	Private Board	-	-	40	22	62
Umlazi	Mission	-	-	176	-	176
F.O.S.A.	S.A.N.T.A.	-	-	-	120	120
Toc H. Botha's Hill	S.A.N.T.A.	-	-	130	-	130
Lillieshall, Rosetta	S.A.N.T.A.	23	-	-	-	23
Total		167	70	1,346	362	1,945

In addition, a total of approximately 100 to 150 cases are always to be found in certain general hospitals, e.g. Addington, King Edward VIII and S.A.R. & H. Hospitals.

These beds are occupied by both City and imported cases. Approximately 35% to 40% are used by Durban patients.

In July, St. Aidan's Mission Hospital converted its tuberculosis ward into a general ward for Indians. In September, Wentworth Provincial Hospital ceased to admit any further cases of tuberculosis and transferred its European cases to King George V Hospital where there were sufficient vacant beds.

King George V/Springfield Hospital: The following notes regarding the activities at this hospital, have kindly been furnished by the Medical Superintendent:

> "We estimate an average stay in hospital for non-Europeans of 6 months; for Europeans the average stay is slightly less.
>
> The tendency is at present to admit only ill, toxic and infectious patients, to give them intensive antibiotic treatment and resort to surgery only if patients are left with residual gross lung damage, which keeps them infectious.
>
> Once patients are non-toxic, ambulant, generally fit and non-infectious they are encouraged to resume their occupation whilst being treated for further prolonged periods at one of our many treatment centres in Durban and Natal. Thus beds are better utilised by a larger turn-over of patients, waiting lists have been considerably reduced, and the patients themselves are more quickly rehabilitated and are able to sustain themselves economically, while still having the benefit of follow up antibiotic treatment. No waiting list exists for European patients,

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and all efforts are being made to cope with the demand for the hospitalisation of non-European tuberculosis sufferers."

City cases of tuberculosis admitted to and discharged from all hospitals during the year were as follows:

	Admissions		Discharges		Left against advice	
European	179	(208)	179	(217)	2	(29)
Coloured	120	(123)	87	(70)	4	(10)
Bantu	1,234	(955)	1,287	(647)	91	(190)
Asiatic	333	(384)	413	(406)	8	(49)
All Races	1,866	(1,670)	1,966	(1,340)	105	(278)

Out-patient Clinic Services.

1. The Durban Chest Clinic, University Avenue.

This Clinic, which was purchased by the Union Department of Health from the City Council some years ago, conducts diagnostic and therapeutic sessions for all four races.

A recent feature associated with the Clinic is the large number of out-patients who received treatment. These consist of cases who are treated entirely as out-patients from the time of diagnosis, as well as of ex-hospital patients who, as the result of recent drug therapy and modified procedures, are enabled to leave hospital much more speedily than hitherto.

In a multi-racial City of the size of Durban, the existence of a large modern tuberculosis clinic is an asset of tremendous value, and the help and co-operation which this local authority receives from the clinic staff is greatly appreciated.

The following report on the year's work at the clinic has been kindly supplied by Dr. M. van Rensburg the Medical Officer in charge:

"The diagnosis and treatment of cases of Pulmonary Tuberculosis has continued along the same lines as during 1954. The result of treatment of cases at home and at work has continued to be as good as those obtained since the inception of this practice. About 3,500 cases were treated from this clinic; of this number 2,391 attended for injections of Streptomycin.

A few changes have been made viz:

(a) Positive Tuberculin Reactors

Since September of 1955 it has been the practice to tuberculin-test all children under 14 - 16 years of age who attend the clinic for examination. At first the Jelly Patch Test was employed, but since November the Intradermal Test has been in routine use, and the Patch Test in selected cases only. All those found to have a positive reaction have been asked to take I.N.A.H. pills for a period of at least six months. In few instances only have parents raised any objection to this procedure.

(b) Contacts - Prophylactic Treatment

Since September 1955, an attempt has been made to tuberculin-test as well as X-ray all those attending as contacts. All positive reactors are put on I.N.A.H., as well as negative reactors who are still in contact with a case undergoing treatment. This scheme has worked well in the case of Europeans and Indians. Wherever possible the same procedure has been followed for Bantu, though the emphasis has been on children in this group.

(c) Cato Manor

Since 28th October, 1955, a Friday-weekly clinic has been held in the Cato Manor area. The fullest co-operation has been received from the Durban City Health Department both with regard to the establishment of a permanent clinic in that area and the running of the present temporary clinic.

(d) Patch Tests at Child Health Clinics

The head of the Tuberculosis Section of the City Health Department was approached, and as a result, those children attending the Child Health Clinics conducted by Dr. Rose have a Patch Test applied when they attend there, and are then referred here for the reading and further investigation where necessary.

X-rays Taken

Year	12 x 15	70 m.m.	Total
1954	23,419	43,425	66,844
1955	30,847	41,234	72,081

Diagnostic Mass X-ray

	Borough	Ex-Borough
Europeans	8,729	1,235
Coloureds	1,343	45
Bantu	12,309	4,079
Indian	9,069	2,321

Recalls from Above

	Borough	Ex-Borough
Europeans	604	94
Coloureds	70	7
Bantu	1,090	428
Indian	753	149

Apart from the above, patients were seen who had not passed through the Mass X-ray selection routine. Some were selected new cases but the majority were those with known pathology who are being followed, and consist of both ex-hospital cases and patients who have had out-patient treatment only.

The attendances were as follows:

	Borough	Ex-Borough
Europeans	3,609	538
Coloureds	1,115	106
Bantu	9,136	3,553
Indian	5,077	1,572

CONTACT CLINIC

	Borough	Ex-Borough
European attendances	1,803	223
Indian Attendances	1,871	87

"

2. Mobile Mass X-ray Unit

The following is a report on the work of this diagnostic unit, kindly furnished by the Government Medical Officer in charge:

"During 1955 the Mobile Mass X-ray Unit stationed in Durban completed 106 industrial surveys, besides routine work. The accompanying table shows the number X-rayed, classified as to race and sex.

European		Coloured		Asiatic		Bantu	
Male	Female	Male	Female	Male	Female	Male	Female
4,794	1,786	1,037	61	6,492	681	19,957	1,603

Total Number X-rayed: 36,411

Once a week the van was stationed at the Durban Chest Clinic to ease the congestion there.

Once a month the Unit visited the Institute for Family and Community Health in the morning and Cato Manor in the afternoon. This was altered in November when a weekly full day was instituted for Cato Manor in place of the half day.

King Edward VIII Hospital and McCord Zulu Hospital were visited three times and twice, respectively, and their staffs X-rayed.

Industrial Follow-up Clinics were held twice a week at the Durban Chest Clinic, and once monthly at the Docks for South African Railways employees, and at the Coronation Brick and Tile works. A total of 33,325 attendances was recorded at these follow-up clinics.

One small rural survey was undertaken when the Unit spent from 11th -26th October in the Kranskop area."

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3. Mobile Therapeutic Unit at Cato Manor.

This unit, which commenced operating in August, 1954, has functioned throughout 1955. A specially designed treatment van pays visits twice weekly (Monday and Thursday) to Cato Manor, and was supported once-monthly by the mobile X-ray unit until October, 1955.

This scheme supplies full out-patient treatment and supervision to numerous Bantu cases living in Cato Manor, who refuse, or are unable, to visit the central clinic in Durban.

During the year, 6,954 injections of streptomycin were given at the treatment van.

4. Mobile Contact-examination Clinic at Cato Manor.

This service, supplied once per week (Fridays) by the Union Health Department, was inaugurated during the month of October, 1955, and is proving a great success. The following is a brief report, covering the first three-month period, by Dr. H. Dubovsky of King George V Hospital, who has been carrying out the actual work.

> "A commencement was made on the 28th October, 1955 with the above clinic at the Umkumbane bus rank pending the establishment of a permanent clinic at No. 23 Booth Road.
>
> The need was felt for a diagnostic service in Cato Manor in addition to the twice weekly visit of a European Nursing Sister for the giving of streptomycin injections already in operation. It was felt in particular that such increased facilities would help in the difficult task of persuading contacts of known cases to be X-rayed. The bulk of Bantu cases notified lived in Cato Manor and contacts complained of the inconvenience of coming to the University Avenue Chest Clinic for X-ray.
>
> A mobile therapeutic clinic van was used in conjunction with a mobile mass X-ray van as one chest clinic unit. Patients waited after X-ray, while the processing was done in the van. 70 mm miniature film was used. The abnormal X-ray cases were interviewed in the clinic van and were notified and treated. Two Bantu Health Assistants of the City Health Department assisted at these Friday weekly clinics (8.30 a.m. to 12). This arrangement worked well as it afforded the Medical Officer direct information of the contacts who were considered the main objective for case finding and protection. Casual attenders or non-contacts, were also encouraged to be X-rayed. It will be observed from the figures given below that the latter were the greater group and afforded the greater proportion of notified cases with a number in an advanced state. Mantoux tests were done on all under the age of 14 years and were read by the Medical Officer on Monday. Certain Bantu, who were not notified cases, were given prophylactic treatment (I.N.H.) because of the risk of their contracting clinical tuberculosis by virtue of their relationship to a known case, age and Mantoux result.

	Contacts			non-Contacts		
	X-rays	Mantoux Tests	Cases Notified	X-rays	Mantoux Tests	Cases Notified
October 28	5			6		
November 4	19	3		23	2	
November 11	22	8		14	3	1
November 18	28	18		26	12	2
November 25	9	5		27	20	2

	Contacts			non-Contacts		
	X-rays	Mantoux Tests	Cases Notified	X-rays	Mantoux Tests	Cases Notified
December 2	16	12		21	3	1
December 9	15	10	1	25	8	3
December 23	9			12		
December 30	7		2	13		
January 6	21	17		38	13	1
January 13	9	11		28	14	1
January 20	13	7		50	20	3
January 27	15			58	20	8
Totals	197	106	3	341	115	22

"

Negotiations are at present taking place with the object of obtaining suitable premises in Cato Manor for use as a full-time sub-clinic. This would then replace the mobile services described in paragraphs 3 and 4 above.

Staff and Activities

The staff of the City Health Department engaged in tuberculosis work consists of five European Health Visitors, three European clerks, nine Bantu Health Assistants and five Indian Health Assistants. The Bantu and Indian Health Assistants include in their duties all the follow-up 'field work' in connection with venereal disease cases and contacts.

To each European Health Visitor is allocated a district for domiciliary work amongst Europeans and Coloureds. She also assists, when necessary, with some of the other non-European cases. In addition to routine follow-up work, she attends some of the sessions at the Durban Chest Clinic, and assists with treatment at the homes of some of the cases. Also, the Health Visitors investigate applications for financial and other aid, and in this regard they attend the monthly meetings of the Care Committee of the Natal Anti-Tuberculosis Association.

The non-European Health Assistants perform similar duties among the Bantu and Asiatic communities. They also visit cases in hospitals and at their places of work.

The following indicates the number of visits made by the 'field' staff to patients' homes during 1955. The previous year's figures are in parenthesis:

European	6,520	(5,514)
Coloured	1,817	(2,174)
Bantu	8,380	(4,669)
Asiatic	5,477	(4,022)
Total	22,194	(16,379)

Should the proposed sub-clinic in Cato Manor, mentioned earlier in this report, materialise, it will be necessary to increase the staff-establishment of the Department by an additional four Bantu Health Assistants, as the volume of work in Cato Manor amongst cases and their contacts will increase very considerably.

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Health Education

The Health Education Section of this Department has given health-talks and film-shows to large groups of non-Europeans in shack areas, compounds and locations. Details in this regard are given elsewhere in this report.

Government Health Centres

Government Health Centres have been actively engaged in tuberculosis control work at Clairwood, Merebank, Springfield Housing Scheme and Lamont location.

Financial Liability for Cases

In the last Annual Report, reference was made to the fact that a special departmental sub-committee had, during the second half of 1954, given consideration to the question of the legal liability of a local authority in regard to hospital and clinic costs in respect of tuberculosis and other communicable diseases. The sub-committee framed its report on the 4th March, 1955, and the legal interpretations and recommendations therein were subsequently adopted.

It should be noted here that, in the opinion of the sub-committee certain provisions of the existing law were inequitable, such as that portion of the Public Health Act which governs the allocation of liability in respect of infectious diseases cases and particularly those diagnosed at Government Hospitals. It may be added here that the legal interpretations of the appropriate Sections of the Act, made by the sub-committee concerned, were in November endorsed by Senior Counsel, to whom the matter had been referred.

A further point of difficulty in regard to financial liability was in connection with tuberculosis cases. In terms of the law, a local authority is financially liable for tuberculosis cases only when such cases occur, or are suspected to occur, in a communicable form. In many instances in which this local authority was asked to accept liability, the state of communicability was not clearly known. It was therefore agreed, in September, that each request for acceptance of liability from tuberculosis hospitals would be accompanied by a short certificate signed by one of the members of a 'panel' of experts on tuberculosis, especially appointed for the purpose by Dr. B.A.Dormer. Such certificate endorses the fact that the case in question is suffering, or is suspected to be suffering, from tuberculosis in a communicable form.

On the recommendation of the sub-committee the City Council has made representations to the Secretary for Health, with a view to possible amendment of the appropriate sections of the Public Health Act. The matter has not yet reached finality.

T.B.Conference

A Tuberculosis Conference, convened by the Union Health Department, took place in Cape Town from the 2nd to 4th May, 1955.

There was a large attendance of delegates from all parts of the Union, the great majority of whom were health officers employed by the various local and Provincial authorities. The delegate from Durban was the City Medical Officer of Health, at that time Dr. G.H.Gunn,

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Dr. Gunn stated in his report on this conference, "The conference was designed to explain the working of the Natal Scheme in ll its phases - hospital, clinic, domiciliary, industrial, case-finding nd treatment; to emphasise (a) the large-scale displacement of hospital reatment by clinical treatment away from hospital; and (b) the handsome conomies in bed-space and attendant staff which could thereby be effected; nd, lastly to record the progress made by the scheme in all its phases n the short period since its inception."

omiciliary Assistance

In addition to the large number of Government isability and Maintenance Grants awarded to patients, a very great deal f financial help is given by the Care Committees of the Friends of the ick Association (to Indian cases) and by the Care Committee of the Natal nti-tuberculosis Association. The Health Visitors are members of the last-amed Care Committee. Below is a report on its activities, kindly furnished y the Secretary of the Association:

"The Care Committee meets monthly to allocate grants. The aid given is in the following main directions:

(1) Assistance to families of all racial groups where the breadwinner has developed T.B. and is unable to carry on his or her occupation. Such items as rent and food for the family are provided;

(2) Milk for children suffering from primary T.B.; and

(3) Financial aid and food for those receiving ambulatory/domiciliary treatment.

The following figures give the expenditure on assistance in recent years:

Year	Amount	Families Assisted
1949	£4,352	332
1950	£4,939	371
1951	£6,647	544
1952	£7,649	560
1953	£8,370	664
1954	£10,362	923
1955	£8,913	

Unfortunately for financial reasons the amount allocated to the Care Committee by the Finance Committee had to be considerably reduced during the latter half of the year.

Sisters E.M.Hook, S.Dolkens, R.J.Stead, F.B. Longmore and J.Taylor provide the very valuable information on which allocations are made by the Care Committee of which they are members. Their direct knowledge of family circumstances facilitates the work of the Committee, and to them its thanks and appreciation are due.

Others who assist in one way and another are the Social Welfare Department, FOSA, Child Welfare Society, Mayville Committee, Adams Mission & District Bantu Child Welfare Society, Indian Immigration Department, King George V Hospital, McCord and Local Health Commissions, Native Commissioners are also helpful in handling grants and obtaining information in regard to Bantu families in Country Districts as also is the Polela Health Centre.

We are obliged to the Medical Officer in charge of the Durban Chest Clinic for facilities for payment of grants at month ends.

The Association continued to act as agents for the King George V Silver Jubilee Fund for Tuberculosis which provides funds for assistance to T.B. sufferers and their families."

V. VENEREAL DISEASES

In considering the statistics of venereal diseases note must be taken of the limited sources of information namely the Addington Clinic for European and Coloured patients and the Municipal non-European Clinics at Congella and Cato Manor. With no details available from other sources (hospitals, health centres, prisons, district surgeons and private practitioners) the figures published must be regarded as a "minimal" reflection of the true situation.

The total number of new cases recorded during 1955 was 15,160 (cf. the peak year of 1949 when 15,167 new cases were recorded). Of these 12,261 were City cases - the highest figure recorded. It is interesting to make a comparison between new City and ex-City cases in 1949 and in 1955: in 1949 for every 100 ex-City cases there were 166.74 City cases while in 1955 the proportion is 100 ex-City to 422.94 City cases.

The difference can be attributed to the simplicity and effectiveness of the modern techniques which make it possible to carry out a service in outlying areas. Among City cases, the figures for the European, Coloured and Asiatic groups were the lowest on record, while those for Bantu were the highest. Bantu females accounted for the major increase, the number being 4,841. The previous "peak" of 2,316 occurred in 1953.

Applying these figures to the estimated population the rates per 1,000 reflect similar changes. In 1955, the rate in the whole City was 24.47 compared with the peak year, 1947, when it was 28.43. Among the individual racial groups, the European rate has declined steadily to 1.77 from 4.23 in 1947; the Coloured section has a record low figure of 8.07, their peak year being 1951 when the incidence was 32.89; Asiatics too have experienced the "downward trend" with 2.46 against 7.17 of 1949; while Bantu have increased from their nadir of 45.44 set in 1954 to 67.69.

The increases reported above are not "true increases", but rather reflections of the increased efficiency of the non-European diagnostic and treatment service.

The establishment of the district clinic in Cato Manor has brought the service within easy reach of a large Bantu population which was the reputed source of infection of many City cases. The large number of new cases attending this clinic, without any fall in the new cases at the Congella clinic, endorse the opinion that more district clinics are desirable.

Hospitalisation

The tariff for hospitalisation was raised to 35/- per day for Europeans and 20/- per day for non-Europeans with effect from 1st November and still qualifies for 87½% Government refund. The effects of modern treatment schedules have continued to be felt in reduced demands for hospital accommodation. In 1947 among new City Bantu cases, 1 in 3.6 was admitted, the total cost being subject to 100% Government refund, while in 1955 among the same group only 1 in 15.2 was admitted.

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At King Edward VIII Hospital, of all Bantu admissions to the V.D. wards, 85% were in an infectious state. The remainder were either not suffering from a venereal disease or, if so, were not in an infectious condition.

Attendances

With approximately the same number of new cases in 1947 as in 1955, the gross attendance rates per new case for these years were 4.3 in 1947 and 3.4 in 1955. With fewer attendances being necessary now, it would appear that the defaulter rate has fallen considerably. Again, as a result of the popularity of the Cato Manor Clinic, City Bantu females had 15,980 attendances in 1955 - the highest figure recorded since 1946.

Clinical Services

Within the City all clinics for venereal diseases are closely associated with the polyclinics of the Natal Provincial Administration's Medical Service.

European and Coloured Clinics

These are under the aegis of the Natal Provincial Administration and are held at Addington Hospital but administered from Wentworth Hospital some 10 miles distant where European and Coloured patients may be admitted to hospital.

The continued fall of new cases and attendances at the Addington Clinic suggests that the number of sessions can be reduced. An analysis made of the combined attendances of European and Coloured persons at this clinic during the first six months of 1955, show that the average attendances per session were 11.74 for males and 7.44 for females, with a total average attendance per session of 11.65. The attendances per hour averaged 7.78 males and 5.72 females (total average per hour 6.99). Certain sessions averaged hourly attendances as low as 4 males and 4 females. Reports from the Natal Provincial Administration "that the current attendance charge of 2/6 is hopelessly inadequate to cover the costs of the clinic" can well be appreciated in the light of such low attendances and the whole-time nursing staff employed there.

Non-European Clinics

The City Health Department administers two clinics which cater for Asiatic, Bantu and Coloured patients. The Congella clinic functions for 50 hours per week, certain staff being detached to operate two 3-hour sessions weekly at Cato Manor, i.e. a total service time of 56 hours weekly. These two clinics accounted for 89.472% of all new cases of all races, and 92.721% of all attendances.

Congella Clinic

This is the main clinic where administration, staff, laboratory, records and stores are centred and statistics compiled. Notwithstanding the fact that the numbers of new cases and attendances here are about the same as last year, they are only 71% of the total of new cases and 80% of the total attendances recorded at both clinics.

Cato Manor Clinic

The work of the district clinic in the Cato Manor area has grown apace. Since its inception in March 1954, attendances have grown from an average of 40 per 3-hour session to 206 per session in 1955 (with a record of 471 attendances at a single session). This growth has necessitated detachment of more staff for these sessions. The present

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staff consists of 1 medical officer, 2 staff nurses, 1 orderly and 2 clerks. Fortunately authority was received early in the year for the second session which has relieved pressure at the original session.

A comparison of the figures for 1954 and 1955 at this clinic is tabulated below:

New Cases	1954	1955
Total	2,156	3,877
Average per Session	51.66	84.28 (79.82% increase)
Attendances	1954	1955
Total	5,822	9,511
Average per Session	138.44	206.76 (61.70% increase)
Average attendance per new case	2.73	2.45

Staff

Medical

There have been no changes in the medical staff employed in the V.D.Services. In the Municipal section, sickness or accident have affected all three whole-time medical officers who have taken together more than eleven months in sick leave. Two months of this has been covered by Dr. C.P.Hargovan, who has acted as part-time locum-tenens.

Nursing

There has been no change from the position reported last year.

Health Assistants

Towards the end of the year, Health Assistants resumed the interrogation of patients and the tracing of contacts. This procedure had been in abeyance for more than a year. Analysis of their work shows that from the new cases interviewed 10.24% of contacts attended in November and 11.71% in December. Considering that Health Assistants were so overwhelmed with contacts (both T.B. and V.D.) that only one contact-finding visit could be undertaken, these figures were encouraging.

Propaganda

The staff of the clinics, the Health Assistants and the Health Education Section have continued to develop anti-V.D. propaganda. Film-shows suitable for mixed audiences were presented during the year and on most occasions the City Venereologist was in attendance to answer questions.

Co-operation

Co-operation has been maintained with the various departments of the Natal University Medical School and the Pathological Laboratories of the Natal Provincial Administration. Several long-term serological investigations have been started.

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Venereal Disease Statistics: (Figures in brackets represent those for the year 1953/54).

	European				Coloured				Bantu				Asiatic				Total				Grand Total
	City		Imp.		City		Imp.		City		Imp.		City		Imp.		City		Imp.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M & F
New Cases	230 (313)	33 (41)	237 (205)	5 (7)	85 (133)	66 (156)	24 (18)	5 (6)	6498 (4889)	4841 (2189)	1685 (1716)	882 (698)	381 (356)	127 (98)	51 (35)	15 (13)	7194 (5691)	5067 (2484)	1997 (1974)	902 (724)	15160 (10873)
Ward Admissions	- (2)	1 (-)	3 (12)	- (-)	- (1)	- (5)	- (1)	1 (1)	274 (617)	461 (521)	203 (516)	346 (496)	6 (13)	1 (12)	1 (5)	2 (3)	280 (633)	463 (538)	207 (534)	349 (500)	1299 (2205)
Out-patient Attendances	1219 (1407)	333 (548)	410 (395)	27 (67)	677 (848)	10292 (2135)	60 (47)	23 (34)	21388 (17709)	15980 (7336)	5530 (5300)	3349 (2673)	1195 (1059)	471 (331)	136 (117)	63 (44)	24479 (21023)	17813 (10350)	6163 (5859)	3462 (2818)	51890 (40050)
Clinics Held	320 (337)								620 (565)												940 (902)
Rate of New cases per 1000 population. (City only)	1.77				8.08				67.69				2.46				24.47				

Co-ordination of Venereal Diseases Services

There have been no further developments in this direction.

Extension of non-European Venereal Diseases Service.

The authorisation of an additional session at Cato Manor was granted early in the year. Although negotiations were opened for accommodation within the new Clairwood Hospital, no further developments can be reported. Complete lack of suitable accommodation to serve the area north of the Umgeni River has precluded any progress being made in this direction.

VI. IMMUNISATION

One of the most important services carried out by a modern Public Health Department is that which relates to immunisation and in this connection, it is pleasing to record that this Department's programmes have been steadily expanding since the inception of this service in 1944.

On account of certain inherent factors, such as its multi-racial character, its proximity to large Bantu reserves, its sub-tropical climate, and its relation to the Mid-East and Far East coupled with the factor of its rapid expansion, Durban may be regarded from a public health point of view, as one of the most difficult towns to administer. Threatened as it is at all times with outbreaks of preventible disease, vigorous measures, conforming to the principles and practice of modern preventive medicine, must be constantly applied for the protection of the City's various racial groups.

Immunisation is the best protective measure which can be adopted against such diseases as diphtheria, smallpox and poliomyelitis. Apart from representing a practical measure to prevent the occurrence of outbreaks of disease and to safeguard and to promote the public health, a duty imposed by statute on all local authorities, intensive programmes of immunisation also serve to uphold the good name and reputation of the City as a health and holiday resort. It is evident that the value of a good immunisation campaign must be assessed not only in relation to the public health aspects but also in relation to the economic welfare of the City as witness the losses sustained during the summer of 1954/1955 during the poliomyelitis outbreak.

In addition to this advantage, immunisation is a good business proposition as is evidenced by the fact that the prevalence of diphtheria has been almost halved during the last few years despite the fact that the population of the town has increased by approximately seventy per cent during the last decade. This means that the cost of the isolation and treatment of diphtheria cases has been materially reduced and so, from the financial angle alone, this source pays handsome dividends.

It has recently been pointed out that the incidence of diphtheria in the Union is thirty times as great as in Britain and other countries overseas. In those countries and districts where the disease has almost been eradicated the populations are homogenous, progressive and advanced, and this factor is of considerable advantage in planning a successful campaign of immunisation against the disease. In the Union, the population is heterogeneous, scattered and diffuse with large sections backward and ignorant. In the rural areas the medical and health services

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are inadequate and the problems of immunisation in this country are therefore much more varied and complex. Notwithstanding the fact that the Government grants local authorities a free issue of immunising preparations, there is no doubt that a great advance would be heralded in the Union if immunisation staffs were subsidised by the State, even on a restricted basis. Such a measure would undoubtedly stimulate and encourage local authorities, especially the smaller ones, to take a more active interest in the protection of their communities and lead to a much more satisfactory level of immunity amongst the peoples of the Union.

Though the salaries of the personnel of an immunisation service are not refundable, the Council has always met recommendations for staff in a sympathetic manner; indeed, it has done everything in its power to promote this activity. Unfortunately, the parents of children in the poorer sections of the community, especially non-European, display a reluctance to avail themselves of the facilities provided by the Council. Whilst this attitude sometimes appears to spring from ignorance it is very often due to nothing more or less than sheer indifference and apathy.

At present, school-children of all races are well-protected against diphtheria,the school programmes having been inaugurated as far back as 1945. But much remains to be done for those subjects who are mostly at risk. Namely, infants and pre-school children. During the year, consideration was given to this problem in consequence of which certain approaches have been developed,an account of which properly falls for inclusion in the next Annual Report.

In consequence of the poliomyelitis epidemic of 1954/1955, it became necessary to suspend the routine diphtheria immunisation programmes and it was not until the end of April that an endeavour could be made to overtake the backlog of work. For this purpose, additional temporary staff was engaged comprising one part-time medical officer, two Clinic sisters and one male Indian Health Assistant. By this means, two teams of workers, instead of one, were allocated to the school immunisation service. By December, the school programme had been completed and, as an indication of the volume of work which was undertaken by the two teams, it should be noted that a total of 296 schools were visited. These schools comprised European 94, Coloured 13, Bantu 44 and Asiatic (including "platoon" schools) 145.

At the schools it is the practice to immunise any pre-school children - brothers and sisters of the pupils themselves - who attend with their parents at the time the team is scheduled to visit the schools. Not many pre-school children are immunised by this means; their number, however, is included in the figures of the subjoined table which reflects the number of school children immunised by the two teams mentioned above.

Diphtheria Immunisation of School Children

	E.	C.	B.	A.	Total
1st Injection	2,354	813	2,880	9.233	15,280
2nd Injection	2,127	707	2,501	7,442	12,777
Boosters	2,672	281	37	761	3,751
Total	7,153	1,801	5,418	17,436	31,808

From the table it emerged that:

(1) 12,777 school children were fully immunised;
(2) 3,751 were given extended protection by means of "booster" injections; and

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(3) 2,503 were partially immunised.

The total number of children attended to by the two teams was 19,031.

Set out below is a table which reflects the number of pre-school children who were immunised at the Department's clinics with a combined preparation containing antigens against diphtheria and whooping cough.

Diphtheria and Whooping Cough Immunisation

	E.	C.	B.	A.	Total
1st Injection	1,031	236	120	191	1,578
2nd Injection	855	135	37	126	1,153
3rd Injection	654	87	24	69	834
Total	2,540	458	181	386	3,565

The following figures have been furnished by the Institute of Family and Community Health; in this connection it must be borne in mind that the Institute programmes were also suspended during the first few months of the year.

Subjects immunised against diphtheria	460
Subjects immunised against diphtheria and whooping cough ...	321

Smallpox Vaccination

The highest priority is given to the subject of smallpox vaccination in both health education and immunisation programmes. Throughout the year, the mobile immunisation van visited all congested areas in the City in regular sequence and vaccination was carried out not only in the field but also at private non-European schools. By this means, members of the poorer classes were saved the expense of travelling long distances to be vaccinated, a matter of prime consideration to those who availed themselves of the service.

During the period the diphtheria immunisation programmes were suspended, the immunisation staff was kept fully employed on this type of work.

Set out below is a table reflecting the number of vaccinations carried out by this Department and by other agencies. Figures in brackets refer to the year 1953/54:

	E	C	B	A	TOTAL
City Health Department	1,810 (1,970)	753 (856)	6,448 (8,223)	10,534 (8,449)	19,849 (19,498)
Municipal Native Administration Department,			119,081 (103,754)		119,081 (103,754)
District Surgeon	2,733	-	6	517	3,256
Institute of Family and Community Health		19	33	100	152
Port Health Office					1,058
Springfield Health Centre			25	45	70

Poliomyelitis Vaccination:

As soon as the Department was notified that vaccine would become available during the winter months, plans for the campaign were put in hand and special consideration was given to the following factors: (1) selection of immunisation centres; (2) staff requirements; and (3) financial provision.

As the main immunisation centre for Europeans and Coloureds situated at the offices of the Department was quite inadequate in size to cater for large numbers, it became necessary to obtain accommodation elsewhere. Provision was therefore made for three rooms in adjoining premises occupied by the Water Division to be handed over to the Department. However, as these had not been vacated by the time the immunisation sessions were due to be held, a wooden bungalow used as a staff rest room was temporarily adapted for clinic purposes. In addition, arrangements were made to utilise certain church halls and other public buildings as district clinics if the necessity arose.

As regards the immunisation of Indian and Bantu subjects it was considered that the existing facilities at Gale Street and at Cato Manor would suffice, more so as the Institute of Family and Community Health had kindly offered to assist the Department by running special clinics for non-Europeans who were domiciled in the Institute's own sphere of activity.

It was, of course, quite impossible to gauge at first the extent of the public response and, to meet any situation which might arise, special panels of doctors, nursing sisters and also auxiliary workers from the St. John and Red Cross organisations were drawn up. Financial provision was made by the Council setting aside a special vote of £2,000 to cover the costs of vaccine, salaries and the purchase of medical equipment.

The service was advertised through the medium of the local press in consequence of which applications in respect of 200 children were received by the Department. Of these, 179 reported for inoculation but 56 were not injected as they were suffering from "colds/ and other minor ailments. The remaining 123 children were immunised throughout the course of one morning by means of two teams of workers.

In the event, the campaign was therefore a "flop" but Durban's experience was no different from that of the rest of the country. Certain experiences reported from the United States were still too fresh in the minds of the public and it was clear that some time must elapse before confidence in poliomyelitis immunisation could be restored.

The need to exercise great care in only immunising subjects who were quite fit became evident about three days after the session had been held. It was then that one mother telephoned to thank the Department for not injecting her child as she had in the meantime sickened with definite signs of cerebro-spinal meningitis!

Typhoid Immunisation:

Clinics were held twice a week at which milk-handlers and selected groups of food-handlers were vi-tested and immunised against typhoid. Those vi-tested comprised Europeans 14, Coloureds 5, Bantu 1,441 and Asiatics 26.

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The table below sets out the numbers immunised against typhoid:

	E.	C.	B.	A.	TOTAL
1st Injection	18	4	1,479	25	1,526
2nd Injection	5	-	984	8	997
Boosters	3	-	197	23	223
Total	26	4	2,660	56	2,746

In addition, 227 subjects were immunised by the Institute of Family and Community Health.

VII. HEALTH INSPECTION AND SANITATION

District Health Inspection

The municipal area is divided into five divisions each under the control of a Senior Health Inspector. Each division is divided into a number of districts, totalling 34 in all. The District Health Inspector allocated to each district is responsible for the supervision of hygiene and sanitation in his area.

During the year the usual vigilance has been exercised in respect of food premises, hawkers, hotels, restaurants, dwellings the keeping of animals, sanitation, pests, nuisance abatement, structural defects and all the other duties associated with district health inspection.

Some points of special interest which arose during the year were the following:

Beach Amusement Park.

As in previous years nuisances have arisen in the area immediately south of the Snake Park. In the first instance although travelling shows which occupy this area are provided with pail latrines for the use of their staff, fouling of the surrounding areas by the public continues to recur. Secondly, it has become the practice for furniture removal vans to park overnight in this area which is also used by many stranded campers during the holiday seasons. There are no water or public sanitation facilities so that nuisance is inevitable.

Sydney Road Outspan

For a number of years this outspan has been used by Bantu travelling in donkey carts to the City from surrounding rural areas. It was found however, that the outspan was being abused by squatters and by illicit traders in foodstuffs, with the result that conditions became insanitary. During the year the City Council effected closure of this outspan. The question of a suitable alternative site is being handled by the Native Administration Department and the Native Commissioner at Umbumbulu.

Oil Refinery.

The following monthly figures indicate the number of complaints received concerning atmospheric pollution and offensive odours from the oil refinery during 1955:

January	15	July	22
February	24	August	53
March	48	September	12
April	36	October	1
May	10	November	1
June	24	December	11

In 1954 the Council came to an agreement with the directors of the Company, whereby the latter should secure the services of experts to determine:

(a) whether the refinery was designed, constructed and operated so efficiently as to prevent the release or escape of objectionable effluents and odours; and
(b) whether any improvements could be effected.

In 1955 the investigating experts recommended certain measures which were adopted by the Company. A final follow-up report is now awaited.

Offensive Trades

Two large industrial firms, registered under the Offensive Trade Regulations were found to be discharging trade effluents into the Umhlatuzana river. They were called upon to treat the effluent to the satisfaction of the City Engineer and to connect their drainage to the Municipal sewerage system. Pending compliance their offensive trade permits were withheld. This matter has now been settled satisfactorily.

Beaches.

During the months September-December a number of complaints were received concerning litter on the Country Club, Beachwood and Durban North beaches, consisting of fish bait, fish offal, papers etc. left by hundreds of anglers, chiefly non-European, who use the beaches in the surf-fishing season. In association with the City Engineer the following measures were carried out:

(a) the provision of sanitary accommodation;
(b) the provision of a piped water supply; and
(c) the introduction of a daily scavenger service. When necessary this service operates on Sundays and public holidays.

Temporary Sanitary Accommodation: New Buildings.

As a result of representations made to the City Engineer, this Department is now advised when new buildings are commenced. Immediate inspection is then made to ensure that the necessary sanitary accommodation for builders' employees is provided.

Sewerage Outfall - The Bluff.

During the year complaints were received regarding the fouling of the beaches on the Bluff by the sewerage outfall. The matter has been referred to the City Engineer for attention.

Atmospheric Pollution.

Numerous complaints were received during the year relating to nuisances from coal-fired appliances. In investigating

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these complaints, the advantages of efficient stoking were discussed with employers and labourers and improvements suggested in equipment, use of correct fuel and supervision.

The very rapid post-war industrial, commercial and residential development of Durban has unfortunately been accompanied by some problems of serious health concern, not the least of which has been the intensification of atmospheric pollution.

For the past few years the growing menace of uncontrolled emission of smoke and other air pollutants from various sources within the Municipal area has perturbed the City Council and general public alike.

It was early realised that before any tangible progress could be made regarding the control of existing and the prevention of future atmospheric pollution it would first be necessary:

(a) to ascertain the true nature of the problem which has to be tackled; and

(b) to obtain adequate legislative powers to enable the local authority to enforce abatement/preventive measures.

During 1955, the City Council continued to devote much consideration to the question and subjoined is a brief summary of further developments arising therefrom:

(i) in view of the inconclusive nature of the reply to the City Council's representations to the Government for the appointment of a commission to enquire into atmospheric and water pollution and for the promotion of national legislation to overcome the difficulties inherent in the present powers of local authorities to deal with atmospheric pollution, the major local authorities in the Union were requested to support the Council's representations to the Government to deal with this matter on a national basis;

(ii) His Honour the Administrator was urged to promote public legislation for the effective control of atmospheric pollution within local authority areas, and empowering local authorities to grant financial assistance by way of loans or otherwise to the owners of solid fuel burning appliances who desire or are required by the local authorities to replace or improve such appliances;

(iii) a meeting with the Executive Committee of the Natal Chamber of Industries was convened at which the Council's proposals for combating atmospheric pollution were explained. The Natal Chamber of Industries offered its co-operation in connection with the abatement and prevention of atmospheric pollution;

(iv) pending the promulgation of legislation empowering the Council effectively to control pollution of the atmosphere, the establishment of a department or section within the Municipal Service to carry out this function was approved in principle and the Town Clerk was directed to report further on the question when the legislation referred to had been duly promulgated;

(v) purchase from the National Physical Laboratories of atmospheric pollution measuring equipment was authorised and the City Engineer was directed to establish three atmospheric pollution measuring stations at suitable points in the City and to collaborate with the South African Council for Scientific and Industrial Research in this regard;

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(vi) employment of an Air Pollution Engineer for carrying out investigations into smoke and air pollution in Durban was approved;

(vii) Dr. E.C.Halliday of the South African Council for Scientific and Industrial Research was invited to visit Durban for the purpose of discussing air pollution;

(viii) with the concurrence of the Standard Vacuum Refining Company, the services of Mr. H.G.Howson, O.B.E., B.Sc., F.R.I.C., F. Inst. Pet., one of the team of three independent experts who had been engaged in 1954 on the recommendation of the British Ministry of Fuel and Power and the Department of Scientific and Industrial Research to investigate and advise on the problems of air pollution from the Oil Refinery at Wentworth, Durban, were obtained for the purpose of investigating and advising upon industrial effluents and atmospheric pollution in the City generally;

(ix) a delegation was appointed to represent the City Council at the Air Pollution symposium held in Pretoria under the auspices of the South African Council for Scientific and Industrial Research on 31st October, 1955;

(x) in order to reduce the emission of smoke from solid fuel burning appliances in the City, the Town Clerk was authorised to negotiate with the Natal Chamber of Industries and/or the Natal Technical College with a view to arrangements being made for a course of instruction in the efficient operation of solid fuel burning appliances for European supervisory staff and non-European boiler attendants employed in Durban;

(xi) representations were made to the South African Railways with a view to the Administration appointing a permanent, full-time smoke abatement officer for Durban;

(xii) arrangements were made with Mr. H.G.Howson to resume and continue investigations of and work in connection with atmospheric pollution in the City (upon which he had been engaged during the month of October, 1955) for a period of six months during 1956, covering the winter months of that year, and at the end of that period to submit a written report to the Council thereon.

Mr. Howson duly submitted a most interesting and informative report on the results of his preliminary investigations from which it was apparent that Durban's atmospheric pollution problem is one of some complexity. This Department co-operated with Mr. Howson by making available field staff for observation and other duties and in the provision of office accommodation.

During August the Provincial Secretary advised the City Council that the Executive Committee had agreed in principle to the introduction of legislation on the lines suggested by the Council and had directed the Provincial Administration's Legal Adviser to draft the necessary amendments to the Local Government Ordinance for consideration.

VIII FIELD HYGIENE.

(A) Plague: Rodent Control.

No case of human plague was reported and no unusual mortality among rodents was discovered during the year. Plague outbreaks have occurred in recent years in Port Elizabeth and Johannesburg.

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Admittedly these are centres surrounded by endemic areas of sylvan plague, whereas Durban is not. On the other hand Durban is a very large seaport and the first port of call from the East, so that complacency would be perilous. The work of the year has been directed at maintaining a constant appraisal of rodent conditions as accurately as possible and at encouraging and enforcing anti-rodent measures.

The anti-plague staff was engaged full-time on rodent control. The personnel has had considerable experience in this type of work and has a good knowledge of rodent ecology and of methods of extermination. In addition the District Health Inspectors are trained in rodent control. Six Health Inspectors and three General Assistants are qualified in the use of cyanide fumigation.

Equipment: One vehicle (1-ton truck) is allocated to rodent work. Four other vehicles in routine use on field hygiene are available if required in emergency. Equipment includes cyanogas pumps, dusting pumps, break-back and cage traps, protective clothing, picks and shovels.

Operation: Surveys planned by the Senior Health Inspector (Field Hygiene) aim, inter alia, at detecting any sign of suspicious morbidity or mortality in the rodent population of the City. Particular attention is given to shops, warehouses, non-European barracks and shack dwellings. In addition, District Health Inspectors give particular attention to the rodent-proofing of rat-attractive premises in their areas.

The provisions of the rodent-proofing regulations under the Public Health Act are strictly applied to all licensed premises and to all new shops and warehouses in course of erection.

Extermination: The chief methods used are trappi gassing with cyanogas dust and poison baiting. Both zinc phosphide and blood anticoagulant (warfarin) are used. A proportion of rodent carcases recovered are sent to the Government Laboratory for examination for signs of plague.

Dock Areas: Durban has the largest dock area of any of the Union's seaports. In addition, it is an exit port for grain, much of which comes from potential plague areas within the Union. Particular attention therefore is paid to those sections of the Point and Maydon Wharves which fall into the Municipal area. Constant trapping and gassing is undertaken for index purposes. Owners of warehouses and other premises are encouraged to carry out rodent extermination.

Liaison with Port Health Department: Close liaison is maintained with the Port Health authorities and there is a monthly exchange of information with the Union Health Department in this respect.

This is exemplified by the following copy of a report received from the Port Health Officer:

> "With reference to a recent joint inspection by Dr. Stephen, Mr. Dickson, the System Harbour Engineer, and myself, I subjoin a list of new works recently completed or in the process of being undertaken, as furnished to me by Mr. Dickson:
>
> 1. Old dwelling house at Wests demolished;
> 2. Old single quarters at Wests partially demolished;
> 3. An area of over 40 acres at Island View reclaimed and rubble banks thereat cement pitched;

4. At Island View, the old wooden wharf at berths 5, 6, and 7 have been replaced by a new sheet pile wall;
5. At Maydon Wharf, wooden berths 1 and 14, have been replaced by steel sheet piling, berth 13 is in the process of being so replaced, and berths 2, 3 and 4 are to be likewise reconstructed in the near future. A continuous wall is constructed at berth 11, which is at present a dolphin berth;
6. Sheds D. and E. at the Point will shortly be demolished and rebuilt as a single unit.

I would supplement this list by the following additional works, which must have had the effect of reducing the harbour's rodent population and facilitating control;

1. The divers' loft at Shop 24 has been demolished;
2. The convict camp at the Graving Dock has been demolished and reconstructed in brick;
3. The Native supervisors corrugated iron hut at the Point refuse loading ramp has been demolished and reconstructed in brick;
4. The carpenters wooden workshop at Cato Creek has been demolished;
5. The old building, which used to house the African Boating Company and King's warehouse opposite B/C Sheds, has been demolished;
6. Certain squatters' huts adjoining 35 S.A.A.F. Squadron domestic area, have been demolished;
7. A disused Native compound in Camperdown Road, belonging to the Railways Administration, has been demolished;
8. Demolition, repairs and renovation work, involving about £10,000 have been carried out at the Union Whaling Company premises;
9. Shop 17 has been partly rebuilt and also rodent-proofed;
10. All police and customs cabins in the Island View area, made of wood, have been rebuilt in brick. In other parts of the harbour they are in the process of being repaired;
11. All tea rooms inside the harbour, and several Point Road business premises, have been rodent-proofed, as far as possible, all measures in connection with this being taken in concert with your Department."

The South African Railways and Harbours Administration is continuing the work of replacing the wooden wharf in the Maydon Wharf area with concrete.

Demolitions: The past year has seen the demolition of many old rat-infested buildings in the central area of the City. Close co-operation with the City Engineer is maintained to ensure that demolition certificates are not granted until the premises are rendered rodent free to the satisfaction of this Department.

Findings: Both the black rat (R.Rattus) and the brown rat (R. Norvegicus) flourish, as do domestic mice. No veld rodents are found to any extent within the City boundaries.

Details of Rodent Operations

Premises trapped for plague index	996
Total number of traps set	19,002
Traps set in harbour vicinity	7,700
Cyanogas used	698 lbs.
Poison bait (anticoagulant) used	143½ lbs.

Rodents destroyed:

Rattus Rattus	1,628
Rattus Norvegicus	1,266
Mice	1,234
Total	4,128

Rodents destroyed - harbour vicinity	951
Rodents submitted to laboratory	133

(B) Mosquito Control.

The extensive low-lying areas of Durban, in parts frankly marshy, coupled with a sub-tropical climate and fairly high average rainfall produce conditions highly favourable for mosquito breeding. It is many years, however, since a case of primary malaria was recorded in the City. Nevertheless in certain circumstances it would be quite possible for the mosquito vectors of malaria to breed. For this reason it is imperative that adequate mosquito control should be carried out. Most of the mosquitoes prevalent in Durban are Culicine species, although some Anopheline species are found. As many complaints of mosquito nuisance are received from the public it is necessary to maintain an adequate anti-mosquito staff and resources.

Methods

Adult Mosquitoes: No anti-adult measures are undertaken except for identification purposes.

Larvae: Larvicidal measures include bush-clearing, canalisation of streams and ditches and larvicidal spraying with D.D.T. emulsion.

Areas: In the Durban North and Beachwood area, large-scale breeding is always possible in the mangrove swamps. Much of this ground is under the control of the Union Defence Department. There are numerous low lying marshes and swamps in the Bluff area, part of which is under the control of the S.A.R. Administration. The Umgeni river area, particularly at Seacow Lake, is another potential breeding ground. There are extensive marshes in the Umlaas river valley.

In all these areas canalisation, edge-clearing and spraying are carried out as a routine. The strong growth of reeds and other marsh vegetation makes control difficult and costly. Reclamation and drainage which offer the only ultimate solution should be expedited.

Statistics

Number of complaints regarding mosquitoes		302
Mosquitoes identified:		
Anophales Coustani	586	
" de Meilloni	394	
" Pretoriensis	34	
" Maculipalpis	339	
" Squamosus	52	
Total		1,405
Bush cleared		496 acres.

Yellow Fever (Aedes) Control.

An area radiating approximately 1 mile from the centre of the Louis Botha Airport, excluding the actual airport area, is controlled.

Two Bantu spotters carry out house-to-house inspection covering the whole area in approximately 10-14 day cycles. A gang of six labourers under a European overseer is employed full-time to carry out anti-adult and anti-larval spraying, ditching and bush-clearing.

During the year the following Aedes mosquitoes were recovered:

26.1.55 - Umlazi Glebe Lands (Larvae)
25.2.55 - Umlazi Glebe Lands (6 adults)
23.3.55 - Merebank (Larvae)
25.8.55 - Lamontville (Larvae)

Within the Government-owned area of the Airport provisions of the International Sanitary Regulations are carried out by the Union Health Department.

(C) Flies.

The number of complaints dealt with during the year was 237, made up as follows:

Durban North	96	City	30
Central	37	Southern	74

As previously the chief sources of fly-breeding have been back-yard poultry-keeping, composting and refuse accumulation. Another fertile source of fly-breeding is the lees from the illicit brewing of Kaffir beer or shimiyane. This is found near most labourers' barracks attached to many industrial or commercial houses in the industrial areas.

Fly-breeding on refuse-tips continues to cause some concern to the Department. Anti-fly measures at tips are undertaken by the Cleansing Section of the City Engineer's Department which is responsible for refuse disposal. It is regrettable however, that as in the case of the Marigold Road site in the cetnre of the Springfield Indian Housing Scheme, the sites selected for tips are not always suitably located.

The Municipal composting project has been remarkably free from flies. The sale of this compost, which is of high quality, to the public has done much to eliminate householders' own compost heaps as sources of fly-breeding.

In the Cato Manor area fly-nuisance has been greatly reduced where municipal sewerage and refuse removal is available. In the undeveloped areas anti-fly spraying has still to be carried out.

(D) Bugs.

Employers of resident Bantu labour have been encouraged to carry out routine fortnightly spraying of Bantu quarters. Advice on suitable insecticides and their method of use is constantly given by Health Inspectors.

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(E) Cockroaches.

Sewer manholes, gutter bridges and stormwater drains are regularly sprayed with D.D.T. and B.H.C.

IX. NIGHTSOIL AND REFUSE DISPOSAL.

The sources of nightsoil and refuse removal and disposal are under the control of the City Engineer who has kindly supplied the subjoined summary of the present position. A large number of properties in Durban are connected to the Municipal sewerage network. Rapid growth of the City has however overloaded its drainage and sewerage systems in certain areas to an extent which could have serious public health repercussions. Considerable re-construction works and additions are now being carried out by the City Engineer's Department as part of a long-term policy of enlarging sewer and drain capacities.

"Conservancy: The number of pails in use during the year was 16,265 - an increase of 1,211 over the previous year.

Refuse Removal and Disposal: The quantity of refuse removed continues to increase and 317,461 cubic yards were collected as compared with 298,647 cubic yards in the previous year. Extensive spraying with D.D.T. and other insecticides has kept fly breeding at disposal sites to a minimum.

Street Cleaning: Sweeping of streets and pavements of the City is carried out as a regular routine and 45,446 cubic yards of street sweepings were collected and disposed of as compared with 44,740 cubic yards in the previous year.

Street Washing: Due to water restrictions, the washing at night of pavements in the central areas of the City was to some extent curtailed as from the 28th December, 1954.

Dead Animals: 479 dead animals were collected and disposed of during the year.

Public Conveniences: No new public conveniences were completed nor were any existing conveniences demolished.

Compost: Composting of refuse and nightsoil has been greatly intensified. Approximately 470 cubic yards of abattoir waste, 700 cubic yards of street sweepings, 300 cubic yards of market refuse, 310 cubic yards of other materials and the contents of 8,300 nightsoil pails are composted monthly at the Springfield Composting Station.

Since January, 1954, when the first sales were made, until 30th June, 1955 approximately 1,824 cubic yards of compost, valued at £2.280 have been sol

Cemeteries: Municipal cemeteries were well maintained throughout the year Road-works in connection with the new European block at Stellawood have been fully completed and the block is now being used for burials."

X. MILK SUPPLIES

The high standard of supervision of the City's milk supplies by the Department has been maintained. At the same time the policy of constant inspection and instruction has been pursued with the object of gradually improving production conditions and methods. Each year more producers attain the exacting standards required by the by-laws. The Department has had to tread a delicate path to avoid, on the one hand antagonism from dairy farmers, and on the other, the dangers which follow from dirty milk. Not co-ercion but patient instruction, constant reminding and encouragement, have earned their reward as proved by the results of numerous laboratory tests carried out daily throughout the year. For the first time it has been possible to raise the arbitrary dividing line between 'good' and 'bad' milk by laboratory standards. Where previously the standard was 1,000,000 organisms per c.c. it is now 200,000 organisms per c.c.

In this connection the following figures are illuminating. They show the percentage of 'bad' milk samples over the past five years using the old criterion of 1,000,000 organisms per c.c.

Season	1950/51	1951/52	1952/53	1953/54	1955
Summer	49%	45%	38%	30%	33%
Winter	44%	18.8%	18.5%	15%	9%

From the Department's viewpoint perhaps the most encouraging feature has been the gradual conversion of farmers to support the scientific or laboratory outlook. Instead of the Department taking the initiative in approaching farmers, the process has been reversed. To-day the farmers are bringing their problems to the Department for solution. This development has, of course, enabled the Department to be more firm with those who have not hitherto co-operated. Whereas previously it was not possible to refuse registration because so few producers came up to standard, it is now not only possible but practicable to do so as a routine.

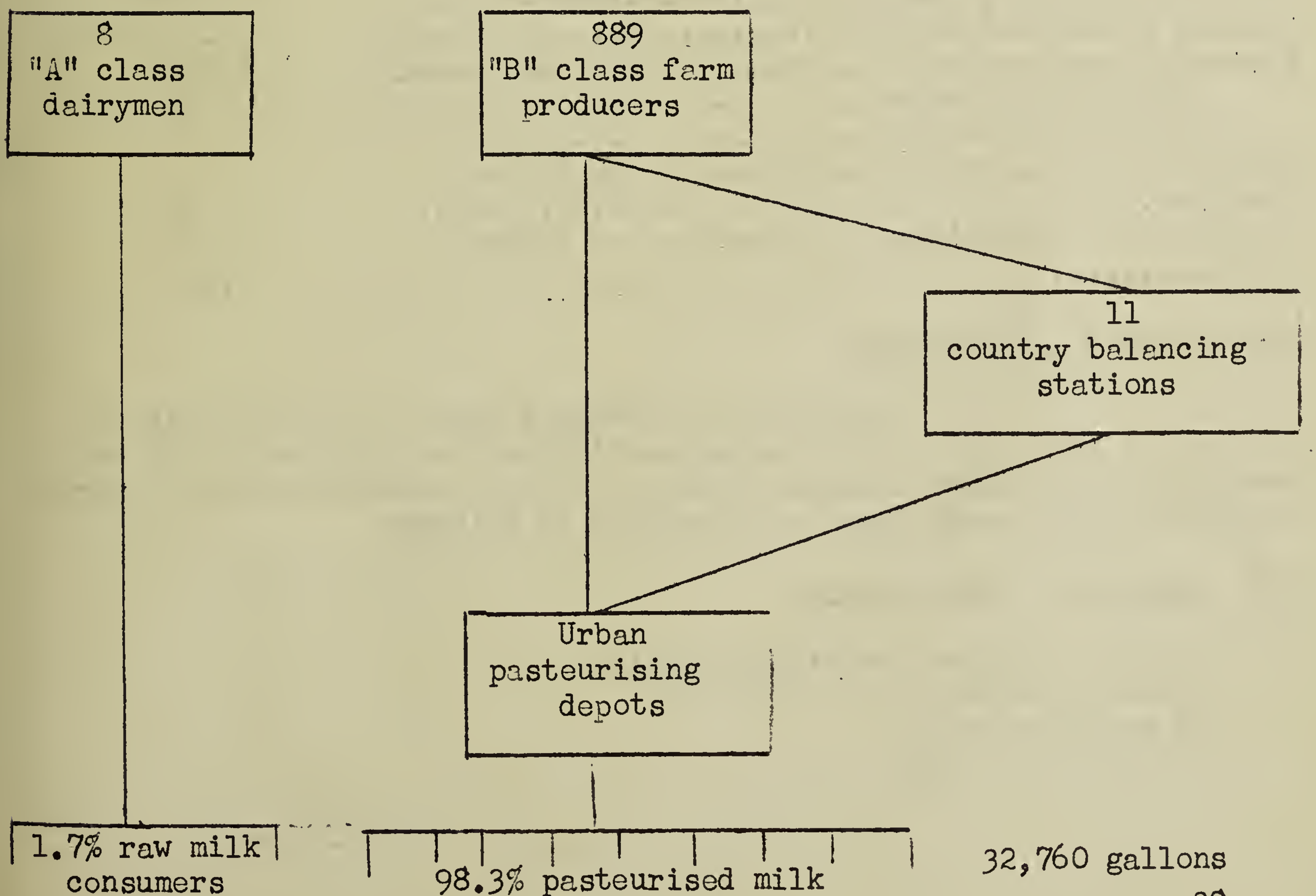
Source, Processing and Distribution.

(a) Eight "A" class dairymen or producer-distributors supply approximately 660 gallons daily or 1.7% of the total supply

(b) Some 889 "B" class dairymen supply approximately 32,100 gallons daily or 98.3% of the total supply.

These farmers are situated in Natal and in parts of East Griqualand.

The distribution of the milk can be illustrated graphically as follows:



Control.

Control at the various stages of milk-handling from producer to consumer is organised as follows:

Producers:

(i) regular inspection, with particular attention to lay-out of premises, design, equipment, refrigeration, suitability of Bantu quarters, water supply and sanitation;
(ii) veterinary checking of animals;
(iii) laboratory tests of samples;
(iv) blood tests of milk-handlers; and
(v) education and propaganda by means of lectures and film displays.

Up-country Balancing Stations:

(i) regular inspection with attention to premises, equipment and labour; and
(ii) laboratory checking of samples.

Pasteurising Depots:

(i) regular inspection of personnel, equipment and processing;
(ii) regular laboratory tests including bacterial counts, keeping quality and pasteurising efficiency and milk-fat content.

Distribution:

(i) regular sampling of milk exposed for sale, either at the depots or in the course of distribution.

The following is a detailed record of the work carried out during the year:

Inspectional Programme:

Dairy inspections carried out: City	1,904
Dairy inspections carried out: Country	981
Total	2,885
Initial farm dairy inspections	77
Country depot inspections	109
Personnel vi-tested and inoculated with T.Endotoxoid	1,177
Doubtful vi-tests	24
Positive Vi-tests	11
Personal Notice/Letters to producers and distributors	42
Written Notices/Letters to producers and distributors	1,112

Improvements and Progress

Although improvements which can justifiably be claimed as the result of the Department's work were carried out in all sections of the dairy industry some of the more important steps towards achieving ideal conditions are described as follows:

(a) Producers (Farm Dairies).

62 dairy premises entirely rebuilt;
51 new cowsheds;
96 new milk rooms;
87 new wash rooms;

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80 improved and re-designed cowsheds;
58 improved and re-designed milk rooms; and
54 improved and modified wash rooms.

(Note: These figures cover the 5 year period 1951-1955. It must be emphasised that the chronic shortage of cement has seriously affected structural improvements. Unless farmers are given a more liberal quota of cement for essential services there is bound to be a lag in progress towards hygienic milk production).

(b) Up-country Balancing Stations:

Mooi River:	New change rooms, sanitary facilities and office accommodation;
Ixopo:	Improved cooling equipment, new milk platform floor;
Wanstead:	Completely modernised;
Rocky Ridge:	Plans submitted for replacement of existing premises; and
Ladysmith:	A new depot has now been completed for handling raw milk for Durban, pasteurised milk for Ladysmith, and sterilising (autoclaving) milk.

(c) Pasteurising Depots (Urban): Another large concern has installed a central laboratory bringing the numbers of private laboratories to two. This is further evidence of the interest shown by all sections of the industry in hygienic methods. They have come to realise the soundness of what this Department has preached for many years i.e. that "clean milk is good business".

(d) Distribution: A large concern in Durban has introduced refrigerated pantechnicons for the carriage of bottled milk from the storage chambers at the pasteurising plant to various zones of the City. The milk can be held there until loaded on to the distribution handcarts without further handling.

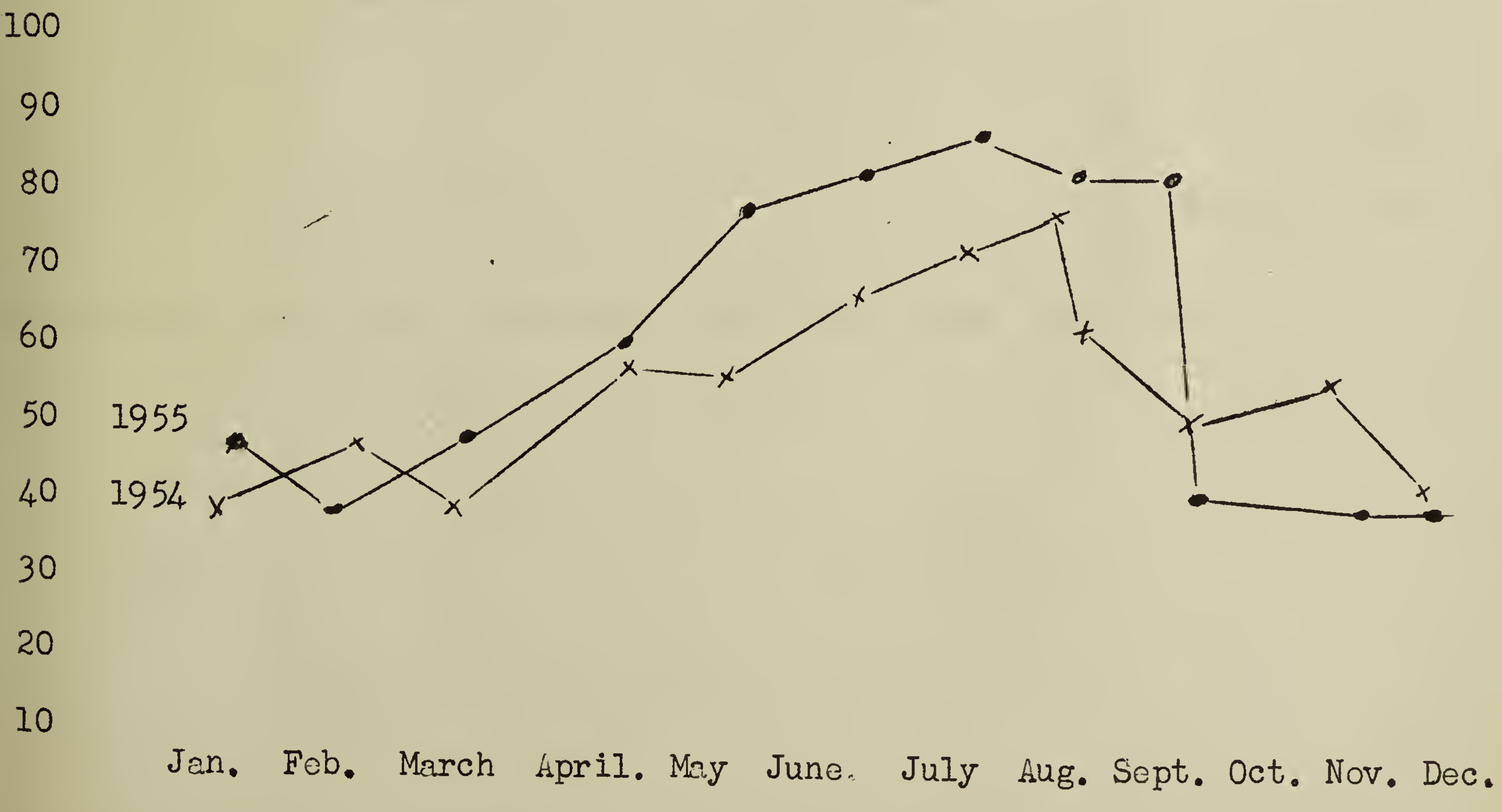
Effect of Improvements.

The nett effect of all these improvements on the cleanliness of milk is shown graphically as follows:

GRAPH I

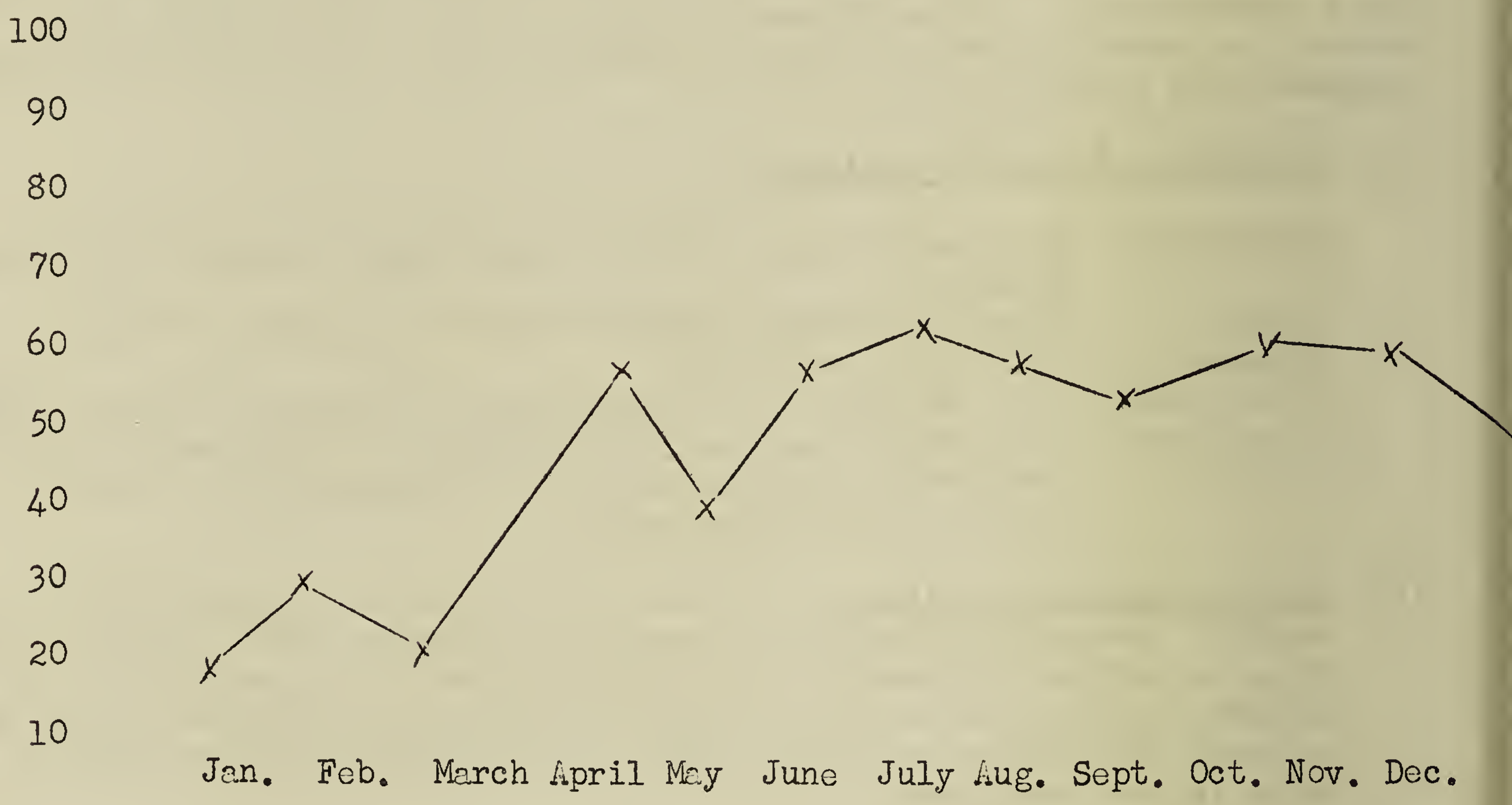
Percentage of producers samples showing counts of less than 200,000 organisms per c.c. in milk:

1954 - 4,326 samples examined. 1955 - 4,271 samples examined.



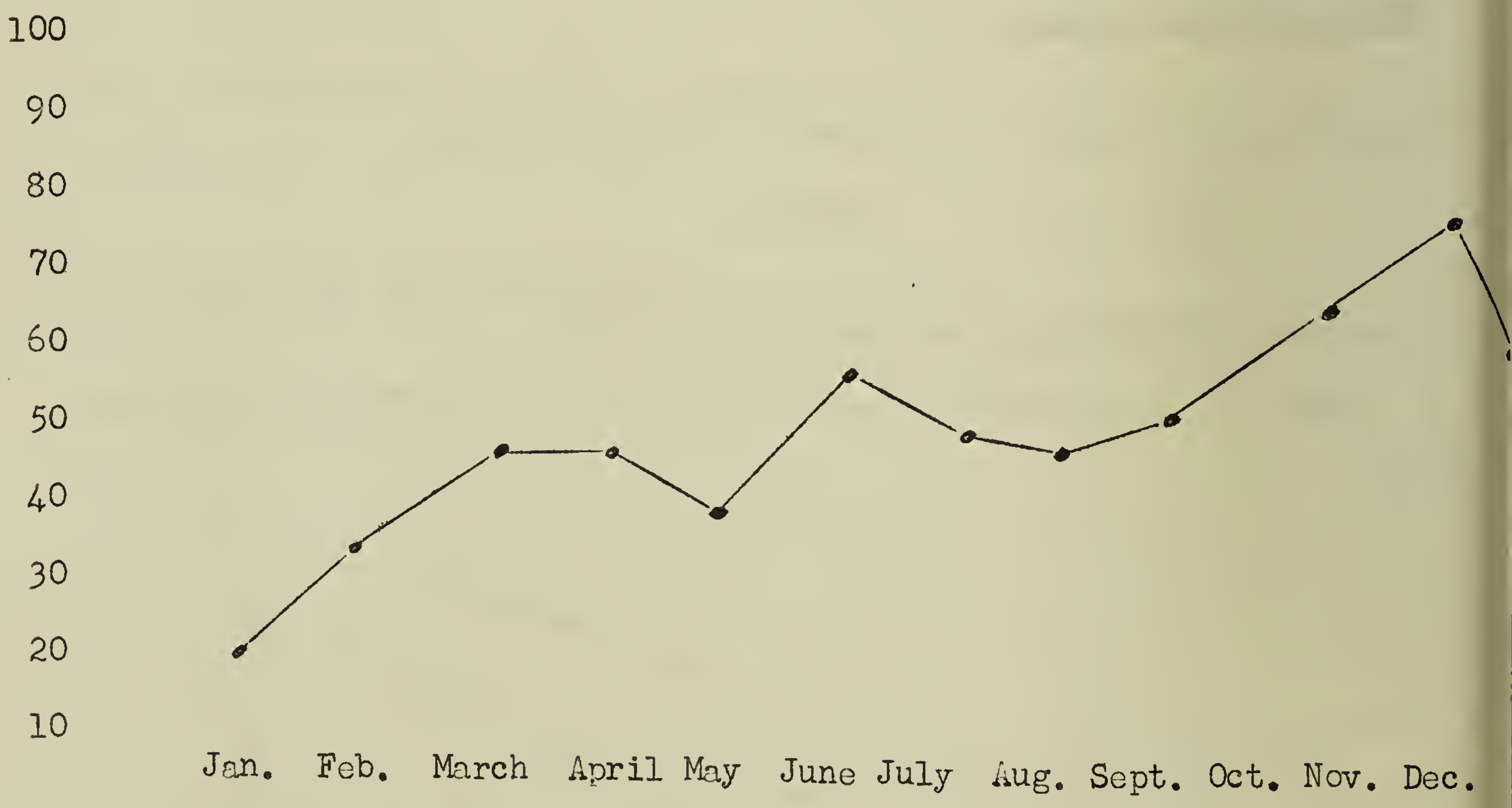
GRAPH II

Percentage of samples showing less than 200,000 organisms per c.c. in cream. Shows that standards drop considerably in hot months:



GRAPH III

Percentage of samples of cream free from B. coli (presumptive test). Again underlining the falling-off of standards in hot weather, i.e. what could be accomplished by adequate cooling and refrigeration equipment.



Laboratory Programme

The work done in the laboratories can be summarised as follows:

(a) City Health Department.

Bacteriological Counts (Breed smears)	6,183
Presumptive B.coli tests	1,027
Eijkmann tests (Faecal B. coli)	36
Phosphatase tests	1,619
Methylene blue tests	756
Mastitis tests	10,408
Contagious abortion "ring" tests	2,870
Sediment disc tests (visible dirt)	4,258
Butter-fat tests	12

(b) Municipal Pathologist.

B. coli tests (presumptive) and (Eijkmann)	238

(c) Union Health Department.

Tuberculosis: Biological tests	43

(d) Government Chemical Laboratory, Johannesburg

Milk: Butter-fat analyses (Food, Drugs and Disinfectants Act)	293
Ice-cream analyses (Food, Drugs and Disinfectants Act)	15
Cream: Butter fat anlyses (Food, Drugs and Disinfectants Act)	5

In connection with these figures it will be of interest to quote some of the results obtained during the year at the various stages of the milk process.

(a) Pasteurised Milk (Bottled).

Breed clump counts.	
samples examined	483
samples showing less than 200,000 organisms per c.c.	70%
Keeping quality (methylene blue).	
samples examined	358
samples showing good keeping quality	87%
Pasteurising efficiency (Phosphatase).	
samples tested	702
samples satisfactory	99.7%
B. coli tests	
samples tested	125
samples satisfactory	75%

(b) Pasteurised Milk (Cans).

Breed clump counts	
samples examined	176
samples showing less than 200,000 organisms per c.c.	58%

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B. coli tests (Presumptive)

samples tested	176
samples satisfactory	85%

(c) Raw Milk

Breed clump counts

samples examined	470
samples showing less than 200,000 organisms per c.c.	87%

Keeping quality

samples tested	354
samples 'good'	77%

B. coli tests

samples examined	116
samples satisfactory	49%

(d) Producer (Farm) Milk.

Visible dirt sediment tests

Year	Samples Tested	Percentage sub-standard
1951/2	4,352	45.3
1952/3	6,273	24.0
1953/4	4,326	18.0
1955	4,233	20.0.

(e) Other Results

Eijkmann (Faecal B. coli) tests - Municipal Pathologist.

samples submitted	241
No. positive faecal B. coli	3

Butter Fat Tests - Government Chemical Laboratory, Johannesburg

Milk:	No. of samples	294
	No. deficient in milk fat	1
Cream:	No. of samples	15
	No. deficient in fat	1
Ice-cream:	No. of samples	15
	No. deficient	Nil

Veterinary

Tuberculosis: Regular clinical examination of all cows in "A" class herds is carried out with the object of detecting tuberculosis in the early stages. Tuberculosis testing of herds is encouraged. This testing is done occasionally on request by this Department as part of the Government Interim Control Scheme. Of 43 samples of milk submitted for biological test, none was found to be positive for tuberculosis.

Mastitis: Health education has been promoted in the form of lectures to farmers and the distribution of pamphlets. Requests for herd tests have as a result risen to 5,060. In addition 5,468 routine tests were conducted. These tests have revealed that in herds tested 15% of cows are infected.

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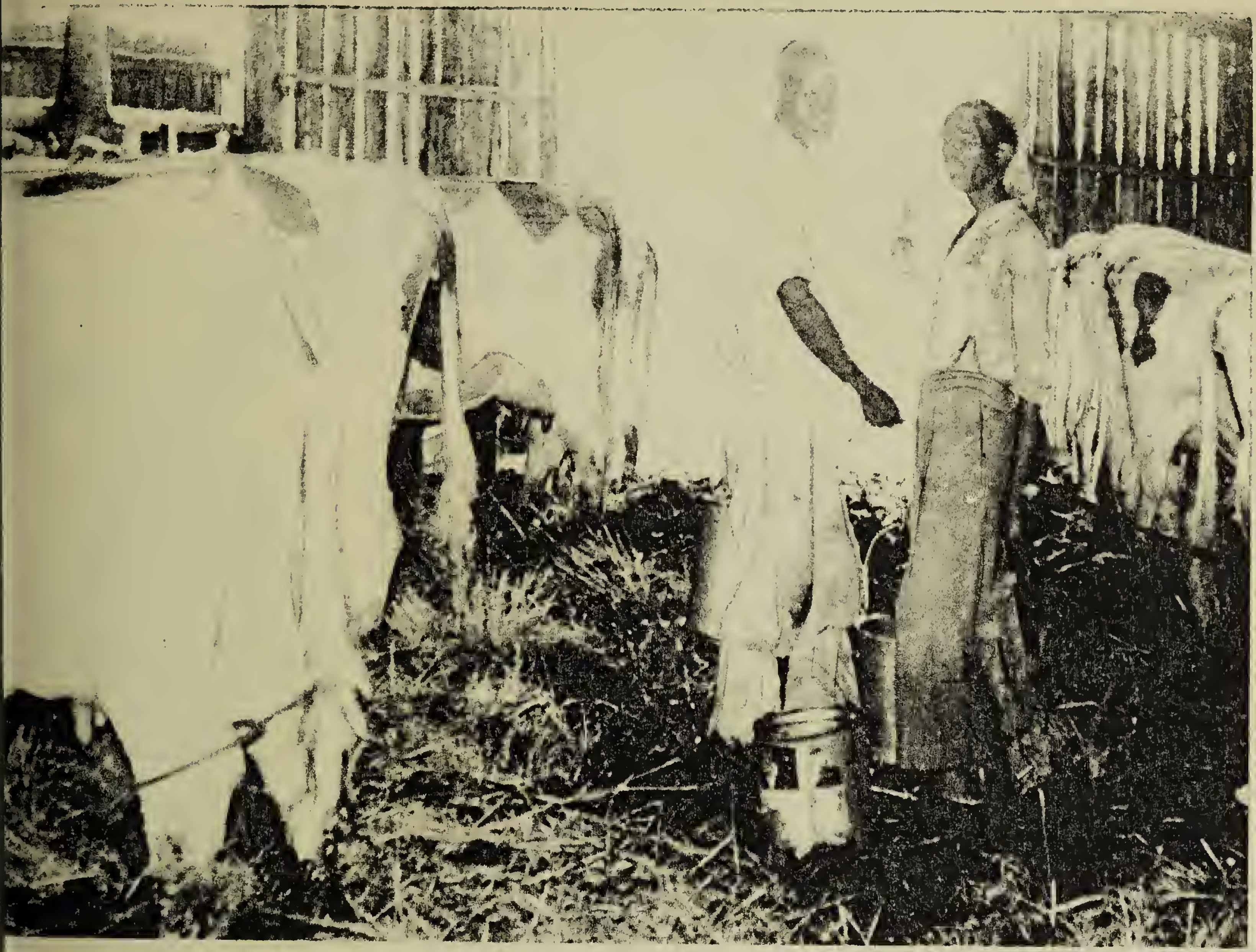
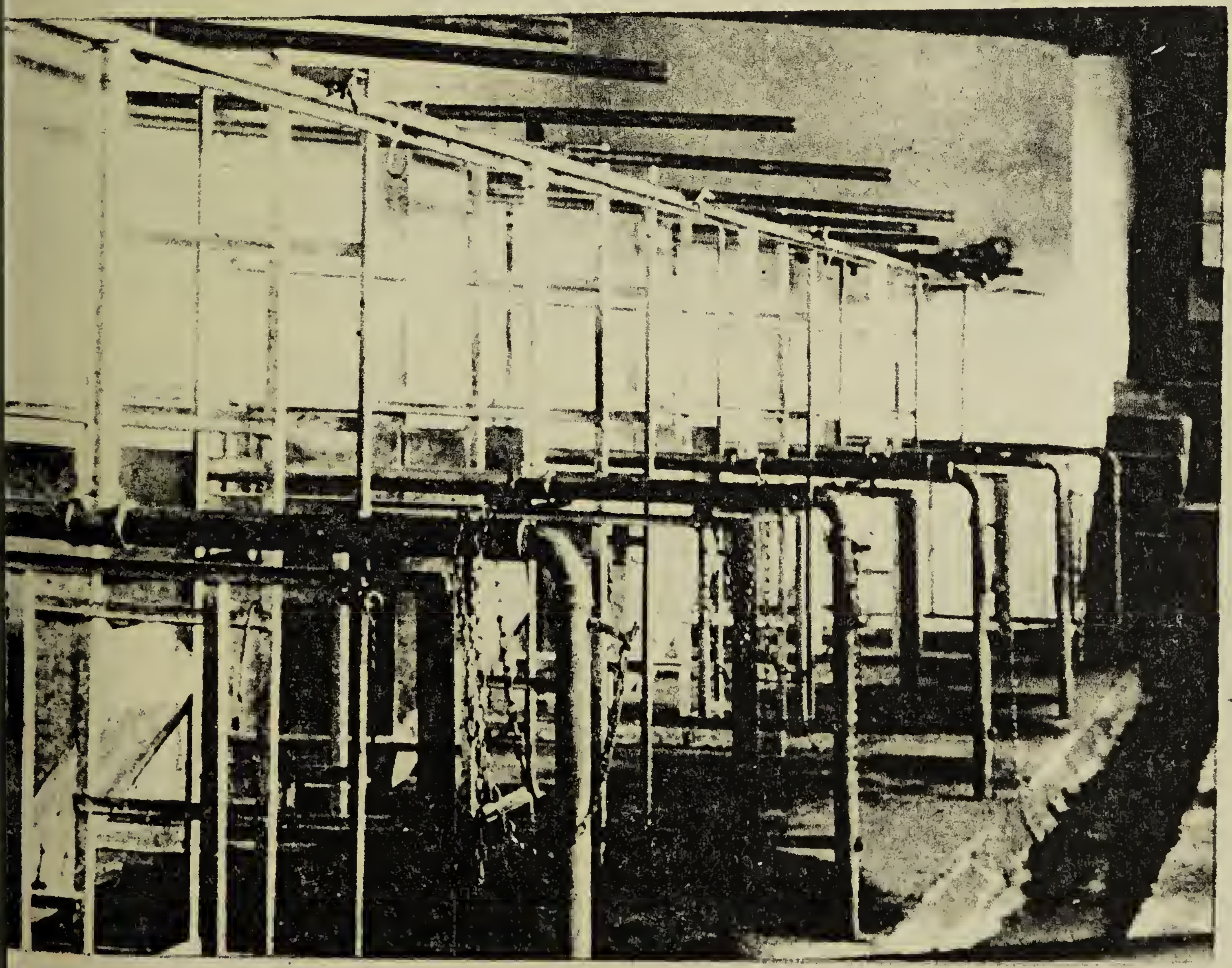


MILKING CONDITIONS PREVAILING IN NATAL BEFORE MUNICIPAL CONTROL 1951.



PROPERLY CONSTRUCTED MODERN SHEDS AS A RESULT OF CONTROL 1956.

MILKING CONDITIONS BEFORE MUNICIPAL CONTROL.

INSULATED MILK TANKER. TRANSPORT FROM COUNTRY TO CITY.

Brucellosis: All "A" class herds were tested regularly for evidence of this disease, which is communicable to man. Eight hundred and forty tests were conducted on "A" class herd animals. Similarly 1,529 tests were carried out on producers' farms - of these 3% were found to be positive. Five hundred and sixty-one extra tests were carried out on actual herds where the milk gave positive tests. Farmers are advised to remove reactors, or, where necessary, to use protective vaccine (Strain 19).

Miscellaneous: The seasonal appearance of "three day stiff sickness", anaplasmosis and babesiosis also affected the health of herds, with a resultant loss of production. Advice has been given to farmers on these diseases and on such various veterinary problems as breeding, sterility and feeding.

XI. MEAT SUPPLIES (By courtesy of the Director, Municipal Abattoir and Chief Veterinary Officer)

System of Slaughtering.

The methods used are governed by the Humane Slaughter of Animals Act No. 26 of 1934. Bovines are stunned by means of humane killers of the captive bolt type. Cattle for Jewish and Mohammedan consumption are slaughtered by means of throat cutting in accordance with the religious beliefs of these sections of the community. In all cases, races and stunning and casting pens of approved types are used; a pen of improved design has been installed during the year under review.

Pigs are slaughtered by means of electrically operated stunners. Sheep and goats are slaughtered exclusively by throat cutting; the system in this latter section has recently been modernised by alterations to the lay-out of the buildings, and the adoption of the "chain" system.

Slaughterhouses.

Two establishments are situated in Durban, viz. (i) the Municipal Abattoir, operated by the local authority, and (ii) the Federated S.A.Meat Industries Ltd., Maydon Wharf. This latter abattoir has not functioned for slaughtering during the year.

Disposal of Waste Products.

Condemned meat and offals, and the blood of slaughtered animals, are converted into valuable farm foods for which there is a ready sale. Tallow is also produced, which is sold by tender to soap manufacturers. The by-product plant is in course of being completely modernised.

Pig bristles are collected and sold for brush making and upholstery, and the skins of unborn calves are sold to Bantu.

A firm of pharmaceutical chemists collects endocrine glands, spinal cords, ox gall, pig and calf stomachs, etc. for manufacturing purposes. Manure and paunch contents are taken over by the City Engineer and used in the manufacture of compost.

Butchers' Shops.

The City Health Department exercises supervision over these premises throughout the City. Meat exposed for sale must have been inspected, passed and stamped as fit for human consumption at the Municipal Abattoir. The Livestock and Meat Industries Control Board is responsible for the distribution of beef, pork and veal supplies to the retail trade, and mutton is sold by auction each day.

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Condemnations.

A summary of animals slaughtered and meat condemned follows:

	Bovines	Swine	Sheep and Goats
Slaughtered	62,683	29,695	375,909
Whole carcases condemned	1,488	1,002	2,192
Portions of carcases condemned	411,372 lbs.	28,532 lbs.	816,775 lbs.

XII. OTHER FOOD SUPPLIES

Inspection of food exposed for sale is carried out by the District Health Inspectors. Control of premises where food is handled is maintained by application of the by-laws and through the annual renewal of trading licences, which are dependent on a health report.

During the year a survey was instituted of all food establishments with particular attention to structure and equipment and the hygiene of food-handlers.

City Market.

Daily inspection of produce and dressed poultry arriving at the market has been carried out throughout the year.

Indian Market.

The generally unsatisfactory conditions at the Indian Market remain unchanged. The question of re-construction of the premises has been taken up with the City Market Master. Tentative plans have been prepared but no further progress has been made.

Beach Catering

Check inspections have been continued during ordinary working hours and over week-ends. Legal proceedings were instituted on several occasions for unhygienic food-handling. Pressure has been exerted on beach catering establishments, backed up where necessary by objections to licence renewals in respect of structural deficiencies. There has been a marked improvement in the standard of these establishments.

The promulgation of the new Beach By-laws in October, 1955, has assisted greatly in health control, especially the sections relating to hawkers, the restriction of the number of waiters and to food containers.

Sandwich Services

The practice has grown up in Durban as in other large cities, of "sandwich services". By this is meant the preparation (by a number of establishments) of sandwiches and other "take-away" meals for consumption by office and factory workers. Some concern has been felt by this Department about the methods of preparation and the hygiene obtaining in these establishments. All known traders have been regularly inspected. A number of illegal traders have been traced. In all these instances food was being prepared under unhygienic conditions and prosecution was instigated.

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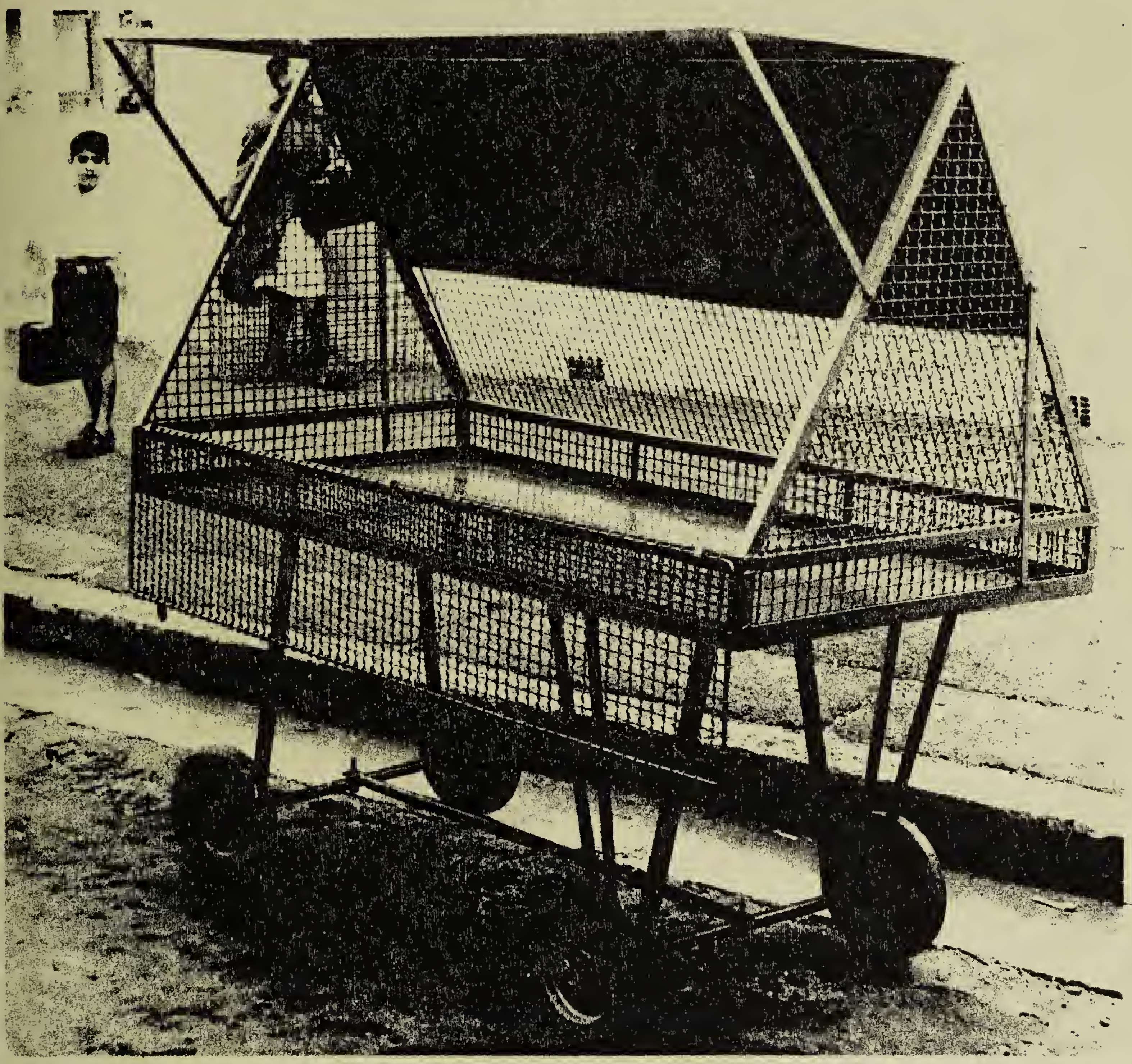
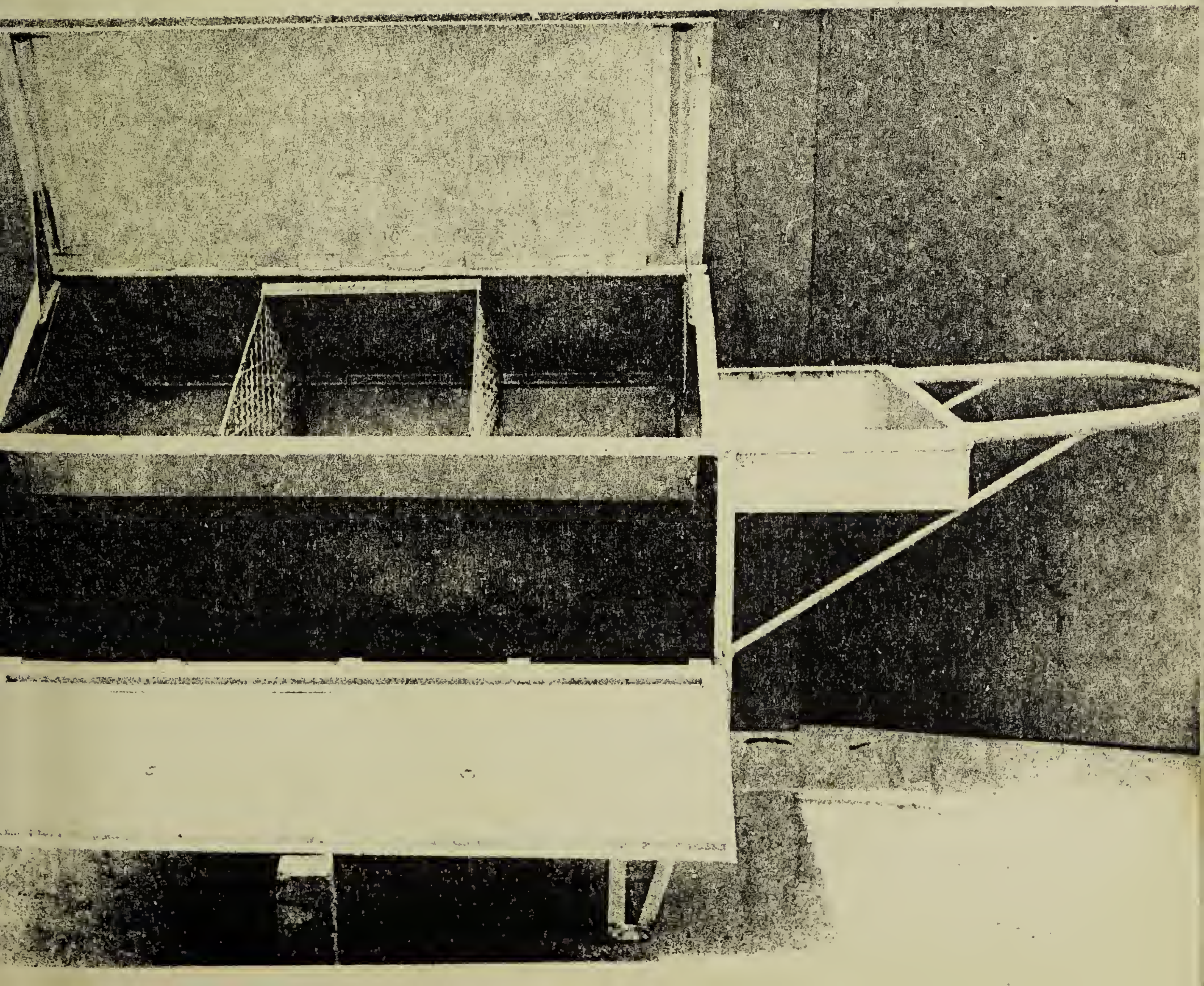
CITY HEALTH DEPARTMENT

APPROVED TYPES OF PEDLAR HAND-CARTS





Nevertheless it has been found extremely difficult to trace all such purveyors. Although regulations under the Foods, Drugs and Disinfectants Act lay down that every package containing food intended for sale shall bear a label indicating its origin, few of the consumers are aware of these provisions. Similarly a number of manufacturers of foodstuffs, particularly small traders, are unaware of the law in this respect.

In an attempt to improve the position the co-operation of the Natal Chamber of Industries and the Durban Chamber of Commerce was invited. Both Chambers have willingly undertaken to publicise among employees the need for accepting only properly-wrapped and labelled foodstuffs.

Unsound Foodstuffs.

The following foodstuffs were condemned as unfit for human consumption and destroyed in the Municipal destructor:

(a) City Market.

Apples (cases)	1
Beans (pockets)	444
Cabbage (Bags)	12
Carrots (pockets)	14
Cucumber (pockets)	1
Ducks (dressed)	32
Fowls (dressed)	375
Giblets (lots)	11
Grapes (half lugs)	301
Guinea Fowl	15
Hares	1
Marrows (pockets)	1
Onions (bags)	3
Oranges (pockets)	83
Partridges	1
Peas (pockets)	13
Pears (boxes)	44
Peaches (trays)	51
Pigeons	96
Plums (boxes)	13
Potatoes (pockets)	5
Poultry Feet (lots)	10
Rabbits	2
Rhubarb (bundles)	35
Turkeys (dressed)	4
Turnips (bags)	1
Venison (carcases)	2½
Venison (legs)	3

(b) Other Sources.

Cake Mix (lbs)	21
Carrots (tins)	536
Currants (lbs)	48
Fowls (dressed)	38
Fish, Assorted (tins)	2,193
Fruit, Assorted (tins)	1,231
Fruit Juice, Assorted (tins)	5
Ham, Cooked (tins)	11
Herrings (lbs.)	1,360

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Jam, Assorted (tins)	1,222
Meat (tins)	2
Milk, Condensed (tins)	130
Peas, Dried (tins)	150
Polony (lbs.)	40
Salmon, Cape (lbs)	3,540
Sardines (tins)	187
Soup, Assorted (tins)	19
Spaghetti (pkts.)	7
Spice, Mixed (pkts.)	17

Analysis of Foodstuffs

The following foodstuffs were submitted to the Government Chemical Laboratory, Johannesburg and the City Analysts under the provisions of the Foods, Drugs and Disinfectants Act:

Samples		Not in conformity with Regulations	Action Taken	Result of Action	Remarks
Nature of	No.	No.			
Bread	81	-	-	-	-
Boerewors	12	-	-	-	-
Cream	5	-	-	-	-
Cooking Oil	19	-	-	-	-
Curry Powder	20	-	-	-	-
Dripping	5	-	-	-	-
Flour (Cake)	1	-	-	-	-
Flour (Bread)	22	-	-	-	-
Fruit Squash	7	-	-	-	-
Fruit Syrup	3	-	-	-	-
Ghee	1	-	-	-	-
Honey	10	-	-	-	-
Ice-cream	9	1 slightly deficient	-	-	-
Milk	222	1	Prosecution	£5 fine	-
Minced Meat	44	2	do.	£5 and £7.10. 0. fines	-
Mealie Meal	15	-	-	-	-
Mustard Oil	1	-	-	-	-
Pickles	1	-	-	-	-
Polony	3	-	-	-	-
Rice	2	-	-	-	-
Salt	6	-	-	-	-
Sausages	44	1	Prosecution	£5 fine	-
Tea	1	-	-	-	-
Water	40	-	-	-	-
Total	574	5	-	£22.10.0.	-

Bacteriological Examination

The following foodstuffs were submitted for bacteriological examination:

Corned Beef	2 tins
Fish Cakes	15
Meat Pies	11
Pasties	1
Ground Nutmeg	1 sample

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Of these, 3 fish cakes were found to show the presence of B.coli (faecal type) and the necessary legal action was taken.

Licence Objections

The following are details of objections lodged during 1955 against 1956 renewals:

Division	Objections Lodged	Premises Vacated	Demolished	Work in hand or undertakings accepted	Complied with	Outstanding objections sustained
City	50	14	1	13	7	15
Central	8	1	1	4	-	2
Northern	96	12	-	25	22	37
Southern	30	-	1	7	5	17
Total	184	27	3	49	34	71

XIII. WATER SUPPLY (By courtesy of the City Engineer).

(a) Source of Supply.

Durban's water supply is derived from the Umlaas and Umgeni Rivers.

The Umlaas River provides water for the old Umlaas Waterworks and the Shongweni Water Scheme and can be relied upon to provide a total supply of thirteen million gallons daily. Both of these waterworks are situated on Durban-owned property outside the City boundaries.

The Umgeni River provides water for the Umgeni Water Scheme, has a capacity of twenty million gallons daily and is in the process of being augmented. The headworks of this scheme are situated near Table Mountain, in the Inanda Native Reserve outside the City.

(b) Treatment of Water.

Water from the Shongweni Water Scheme is stored in a reservoir at Shongweni originally of 2,657,000,000 gallons capacity, chemically treated and conditioned in sedimentation basins at its headworks and then sent to Northdene where it is filtered by a Patterson Rapid Gravity Filter Plant, chlorinated and, after storage in balancing reservoirs, passed through a twenty-four inch steel aqueduct to the City.

Water from the older Umlaas Waterworks is taken from the Umlaas River at the old Umlaas intake near Mariannhill where it is chemically treated, clarified in open sedimentation basins and thereafter filtered through slow sand filters at Umlaas and Coedmore, chlorinated and sent to the City.

Water from the Umgeni River is conserved in a reservoir of 5,500,000,000 gallons capacity formed by the Nagle Dam at the Table Mountain headworks of the Umgeni Water Scheme. Being situated in a horseshoe bend in the Umgeni River, these works have been constituted so that it is possible to by-pass completely all normal floods - up to 94,000 cusecs

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capacity - and keep the reservoir free from silt. After conservation, the water flows through the Umgeni Scheme Aqueduct to the purification works at Durban Heights where it is passed through a Candy Rapid Gravity Filter Plant, slow sand filters, chlorinated and finally passed through a steel aqueduct to the service reservoirs and distribution system of the City.

(c) Distribution.

Durban's water never sees the light of day from the time it leaves the various filtration works until it emerges from the consumer's taps. The water is distributed by means of a network of steel, cast iron, spun iron and asbestos cement pressure piping. Reinforced concrete service reservoirs, all totally enclosed and having an aggregate total capacity of 47,390,000 gallons, have been provided.

(d) Adequacy and Purity.

Durban's average daily consumption during the year ending 31st July, 1955, was 34,433,695 gallons and the peak daily consumption was 41,934,500 gallons. At present, the City enjoys waterworks facilities having a total daily capacity of 36 million gallons. Parliamentary authority to augment the Umgeni Water Scheme by duplicating the aqueduct and purification works has been obtained and the work on this project has commenced.

Every precaution is taken to ensure that Durban's wate supply is maintained at the highest possible state of purity. A staff of chemists and bacteriologists is continuously employed on the chemical and bacteriological examination during all phases of the water's treatment and distribution. An average of 1,200 samples, taken from various points of the City, are examined bacteriologically each year and the results reveal a high state of purity, throughout the entire distribution system. Independent and regular examinations are made by the Government Pathologist.

(e) Development and Progress.

The City Engineer's Department is engaged on a programme of improving and extending its existing reticulation by replacing many of the old water mains in the central area of the City with new and larger mains capable of providing an adequate supply in these areas for both water and fire-fighting purposes. The reticulation of the residential areas of the Berea is being improved by the execution of a programme of cement lining done under contract.

The augmentation of the Umgeni Water Scheme has been commenced. The successful contractors for the supply of the necessary piping have erected a factory at Mobeni and commenced production in April, 1955. At the close of the year the trench for the new aqueduct between tunnel T. 4/3 and the Durban Heights Purification Works was completely excavated and laying was commenced. A sixth five million gallon filter unit has been commenced at the Durban Heights Purification Works and the first compartment of a 22,000,000 balancing reservoir was commissioned in April, 1955. The second 7,000,000 compartment of this reservoir is nearing completion and excavations for the third compartment were about 50% complete at the close of the financial year.

The tunnel for the Shongweni Flood Diversion Works has been holed through and it is hoped to complete the improvements to the Division Works in the following year.

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XIV. LEGISLATION

Financial Responsibility for Hospitalisation

A Departmental sub-committee of officials was appointed by the Town Clerk to investigate fully all aspects of the Council's liability for costs of hospitalisation and treatment of cases of infectious and communicable disease. The sub-committee pointed out that public health part-refunds have, since the promulgation of the Public Health Act, 1919, been increased to a uniform 87½% which has afforded local authorities some financial relief, but only the implementation of the long-term recommendations of the Havenga Committee would resolve all Council's difficulties connected with personal health services. As an interim measure, however, it was recommended that the Public Health Act should be amended to remove existing anomalies, and that the Council should revise its present policies where these were contrary to the provisions of the Act.

The City Council, on 9th May, 1955, adopted the recommendations of the sub-committee.

Delegation of Authority to Officials.

The City Council on 7th February, 1955, resolved that the City Medical Officer of Health, Deputy City Medical Officer of Health, Assistant Medical Officer of Health, Chief Health Inspector and Deputy Chief Health Inspector be appointed under Section 5 (2) of Act 36 of 1927 as duly authorised officers to carry out the provisions of the Public Health Act, 1919, subject to the authority in respect of the Chief Health Inspector and Deputy Chief Health Inspector being restricted to matters relating to nuisances.

Offensive Trade Regulations

The City Council has recommended to the Minister of Health that the Offensive Trade Regulations for the City of Durban be amended in three respects, as follows:

(i) by the addition of the following trades to the list of trades falling within the scope of the regulations:

Lead Smelting Works;
Oil Refineries and Works dealing with the Processing of Products of Petroleum Refining;
Paint and Varnish Works;
Asbestos Works, Cement Works, Metallurgical Works, Reduction Works and Oredressing Works.

(ii) by changing the procedure, regarding advertisements in the press, to require in future that the applicant shall himself arrange the necessary publications; and

(iii) by authorising the City Medical Officer of Health to administer the regulations, subject to the applicant having the right of appeal to the Council against any adverse decision.

Smoke Control.

Experience has proved that local by-laws and other legislation for combating smoke nuisances are inadequate in the light of modern requirements. The Department and the Council are alive to the necessity of obtaining additional powers. The State, Provincial Administration and local authority are considering various proposals but, to date, it has not been possible to introduce a suitable code.

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It is hoped in the not too-distant future that adequate legal powers will be secured to strengthen the control of smoke emission.

Methyl Bromide Fumigation

The Department is very concerned at the absence of suitable legislation to control the use of methyl bromide as a fumigant. The Council supports this attitude and the Department has taken the matter up with the Central Government, as the question is one which is of interest to the country as a whole.

Food, Drugs and Disinfectants Act, No. 13 of 1929

(1) Amendment of Regulations

During the year the Secretary for Health invited criticisms of a number of proposals by the Minister to amend various sections of the Regulations. In all cases, the proposals were studied and the Council informed the Government of its opinion thereon.

(2) Sterilisation of Milk, etc.

Local authorities were notified by the Secretary for Health in September, 1955, of an intention to add new regulations regarding sterilised milk, sterilised skim-milk, and sterilised flavoured skim-milk, and were invited to submit criticisms of the draft.

The Council was not in full agreement with the proposal mainly as regards the question of control. The proposed amendment contained the provision that the local authority in whose area of jurisdiction the milk was intended for sale should approve of the sterilisation methods and premises.

After due consideration of all the implications the Council advised that it was in full agreement with the intention to impose proper control over such products, but considered it desirable that sterilisation methods, premises and bacteriological standards should be in conformity with standards applicable throughout the Union. Furthermore, it was considered impractical to require a local authority to exercise control other than over sterilising plants situate within its area of jurisdiction.

Public Health By-laws.

(a) Nuisances.

Two amendments were promulgated during the year. One concerned the question of the clearance of overgrowth from vacant premises. The new section provides similar powers to the Regulations for the Prevention of Malaria and Other Mosquito-borne Diseases and for the Destruction of Mosquitoes, framed under the Public Health Act, whereby the Department is empowered to carry out remedial measures if the terms of a notice are not complied with and to recover the costs thereof at tariff rates from the owner or occupier.

The other amendment concerned the definition of "occupier". The new definition includes an owner or his agent in respect of premises, or parts thereof, used in common by a number of occupiers.

(b) Food By-laws.

The opportunity was taken during the year to amend Section 25 relating to changerooms, wash-hand facilities, wearing of overalls, etc. No new provision was incorporated but the section was re-numbered and slightly altered to remove certain anomalies.

(c) Milk (and Milk Products) By-laws.

Section 14 empowers the Medical Officer of Health to refuse certificates of registration to milk dealers, milk purveyors and "A" and "B" class dairymen, subject to the applicants' right of appeal to the Council against such decision. This Section has now been amended to incorporate powers of revocation of registration.

Section 23 empowers the Medical Officer of Health to prohibit, for such periods as he may think necessary, the supply of milk or milk products -

(a) from any premises wherein a case of communicable disease has occurred;
(b) from any source wherefrom milk or milk or milk products previously is suspected to have been the cause of any case or cases of communicable disease; and
(c) wherein the presence of tubercle bacilli has been detected by a veterinary officer or a competent bacteriologist.

This section has now been amended to incorporate an additional power of prohibition i.e. if the City Medical Officer of Health is of the opinion that consumption of such milk or milk products is likely to cause sickness or disease.

Adequacy of By-laws.

In the main, the Public Health By-laws are satisfactory, with the exception of the control of smoke emission referred to above. There are, however, a number of minor amendments which have been found necessary from recent experience which the Department has been unable to secure during the current year, owing to the restriction on amendments necessitated by the implications of the Act which requires that all existing by-laws must be promulgated in both official languages if they were not so promulgated originally.

Economy and Efficiency.

The City Council in 1953 appointed an Economy and Efficiency Committee to initiate a drive throughout all Municipal departments and required the setting-up of departmental committees to examine and report upon the administration and efficiency of their respective branches of the Service. This Department's sub-committee comprised three senior administrative officials, together with the various section heads and a representative of the employees. The Departmental sub-committee carried out very extensive investigations into staff establishments and sectional programmes and duly reported to Council with many recommendations which, in the main, were adopted during the year under review.

Prosecutions.

During the year 211 cases were brought to Court for contraventions of various public health legal codes, with the following results:

Public Health By-laws:	No. of Contraventions	Guilty	Not Guilty	Fines
(a) Relating to Nuisances:				
(1) Unclean Premises (yard areas, drains, privies et.)	28	28	-	£155.10. 0
(2) Urinating in unauthorised places	9	9	-	£ 6.10. 0
(3) Fly development	14	13	1	£ 52. 0. 0
(4) Absence of water supply	1	1	-	£ 5. 0. 0
(5) Structural defects	15	15	-	£ 84.10. 0
(6) Defective drainage appurtenances	4	4	-	£ 15. 0. 0
(b) Food:				
(1) Unclean conditions	28	28	-	£173.10. 0
(2) Exposure to contamination	17	17	-	£107.10. 0
(3) Absence of /unclean protective clothing	6	6	-	£ 16. 0. 0.
(4) Storage of clothes in shop	9	9	-	£ 20. 0. 0.
(5) Absence of/defective refuse receptacles	9	9	-	£ 27.10. 0.
(6) Unsound food	3	3	-	£ 13. 0. 0.
(7) Absence of/defective refrigeration	2	2	-	£ 10. 0. 0.
(8) Unapproved/unclean vehicles	3	3	-	£ 20. 0. 0.
(9) Building defects	2	2	-	£ 10. 0. 0.
(10) Unsound equipment, crockery, etc.	6	6	-	£ 32.10. 0.
(11) Absence of nail brushes, soap, towels, etc.	1	1	-	£ 2.10. 0.
(12) Repainting/colourwashing	1	1	-	£ 5. 0. 0.
(c) Milk (and Milk Products):				
(1) Below bacterial standard	1	1	-	£ 5. 0. 0.
(2) Decanting	1	-	1	- - -
(d) Animals:				
(1) Nonregistration/unauthorised animal keeping	3	3	-	£ 32.10. 0.
(e) Relating to privies and cesspools:				
(1) Use of privy where sewer is available	13	13	-	£ 70.10. 0.
(2) Disrepair of sanitary accommodation	2	2	-	£ 10. 0. 0.
(3) Inadequacy/lack of privy accommodation	2	2	-	£ 10. 0. 0.
(f) Relating to Dry-Cleaners 'and Dyers' Establishments, Laundries and Depots:				
(1) Conveyance of articles in unapproved vehicle	2	2	-	£ 10. 0. 0.
(g) Slaughter of animals:				
(1) Slaughter in unapproved place	1	1	-	£ 5. 0. 0.

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	No. of Contraventions	Guilty	Not Guilty	Fines
Regulations				
(h) Food, Drugs and Disinfectants Act:				
(1) Minced meat containing preservative	2	2	-	£ 20. 0. 0.
(2) Sale of food (milk) below chemical standard	1	1	-	£ 5. 0. 0.
(i) Regulations for the Control and Inspection of Premises in Defined Zones:				
(1) Non registration	8	8	-	£ 34. 0. 0.
(2) Unclean conditions	5	5	-	£ 30. 0. 0.
(3) Disrepair of buildings, d drainage appurtenances, etc.	4	4	-	£ 22.10. 0.
(j) Regulations for the Prevention of Malaria and Other Mosquito-borne Diseases:				
(1) Mosquito breeding conditions (Potential)	2	2	-	£ 10. 0. 0.
(2) Mosquito breeding conditions (Actual)	1	1	-	£ 5. 0. 0.
(k) Regulations re Early Notification of Births:				
(1) Failure to register	2	2	-	£ 1. 0. 0.
By-laws.				
(1) Building				
(1) Illegal use of structure for human habitation	3	3	-	£ 8. 0. 0.
Acts.				
(m) Public Health Act No. 36 of 1919				
(1) Practicing by unregistered midwife	1	1	-	£ 10. 0. 0.
	212	210	2	£1,044.10. 0.

XV. HEALTH EDUCATION AND PROPAGANDA

Daylight Cinema Van

With the dawn of 1955 came also a great opportunity both to increase the scope and deepen the teaching of health among the non-European masses. It came in the form of a daylight cinema van with loudspeaker equipment built according to the design and measurements of the Technician of the section and approved by the City Council. Great excitement attended its arrival at the Department on its first morning 'on duty'; the Bantu staff particularly were elated at "taking our people this new thing, a bioscope in the day." One Bantu lecturer said "It is like the coming into the family of a newly born infant - it is strange and it looks awkward but it gives us great expectations."

The daylight cinema van made its debut to the Bantu public in the heart of shack land on a drizzling day. As the sound of music floated over the hills and valleys, it seemed the very earth came alive as figures hurried by devious ways to the 'stand'. In spite of the rain, over 300 people queued and watched throughout the projection of the nutrition film in colour produced by the Department. Remarks were forthcoming about the "cleverness of the abelungu (European)" who now showed them in daylight what formerly they had to see in the darkness of night. At Mgengeni Shacks a dense crowd watched with amazement; at the finish the men in the group said "Our women must take notice of this teaching; they must buy us the food we used to get at the kraal like amasi and good ground unrefined mealie meal; now they waste our money on jams, jellies and rubbishy sweet things that don't stay in the stomach long" - the women concerned were silently listening. This pattern of events was repeated wherever the van made its truly triumphal appearances. At Asiatic sessions, it was gratifying to observe the number of younger women with children. Older women remarked to the Indian Lecturer "our day is done; but these young women are lucky to receive this teaching in this way." One of the assurances that this medium was 'hitting the target' was the spontaneous laughter of the audiences at the right places! To assess further the value of the film and commentary a technique was adopted which still proves invaluable. Two lecturers must be on duty; one unobtrusively mingles with the crowd during screening to listen to remarks of the audience. The other, the lecturer-commentator, after inviting questions leaves the theatre of the van immediately the film ends to answer queries and listen to provocative discussions; frequently both lecturers may be seen surrounded by an eager group, listening to guidance on health matters. These discussions faithfully reported morning by morning are fruitful sources of themes for future films. A European General Assistant was appointed to drive the van, project films and operate the public address syste

The cinema van continues to be a "box office draw". In addition to set educational film lectures, the loudspeaker has proved invaluable for emergency health control in areas threatened with an outbreak of communicable disease, particularly diphtheria and smallpox and the acute intestinal infections. For routine instruction, as well as emergency control purposes, the loudspeaker unit has proved its efficacy over and over again among all races.

The programme is arranged so that each 'area' receives a visit from the film/loudspeaker unit at least once a week. The mornings are allocated to industrial groups, markets, municipal beer hall queues, locations and compounds, and the afternoons to domestic servants. Audiences collect seemingly from nowhere soon after the unit announces its arrival.

On the loudspeaker schedule, emergencies such as epidemic control take precedence over routine subjects such as food-handler hygiene, immunisation, the prevention of venereal diseases, tuberculosis, typhoid, dysentery, diphtheria, smallpox and typhus. Other subjects are nutrition, personal hygiene, pest prevention and isishimuyane.

As mentioned in former reports, folk-lore customs and traditions are largely drawn upon to sharpen points in dealing with such controversies as 'medicine-man'. Comparisons of primitive and modern methods of diagnosis and 'materia medica' are always the subject of eager interest and attention. It is now no uncommon event at question-time for a member

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DAYLIGHT CINEMA IN MUNICIPAL HOUSING SCHEME.

SCHOOL CHILDREN LEARNING ABOUT BILHARZIA.

THIS MODEL IS USED FOR V.D. INSTRUCTION AT FACTORY COMPOUNDS.

A LECTURE ON BROWN VERSUS WHITE BREAD - MUNICIPAL COMPOUND.

of the audience to testify that the lecturer is right because he himself found no help with the medicine man and following sage advice, went to the V.D. or T.B. clinic and was helped. Incidentally in regard to V.D. the Bantu have none of the inhibitions so marked in the European.

The equipment for the work, excellent though it is, would be useless without highly trained personnel who have been handpicked not only for their educational qualifications but for their personality-slant viz.: a strong sense of vocation and integrity. In choosing a candidate for a vacancy very special attention is given to home background, parents and inherent uprightness.

The Bantu are naturally eloquent and race conscious; they make fine lecturers and fine listeners. Their thirst for practical health knowledge is insatiable. At certain Bantu compounds where weekly story films were regularly billed by the management it was noticed audiences were dwindling till they were nearly extinct; the management considered abandoning the programmes. At the announcement of a health film programme there was a full house; they remarked "we don't want 'that story nonsense' we want to learn about our bodies."

Film Production

Owing to the absence overseas for several months of both the Health Educator and Technician, departmental production was limited to:

(a) "Save the Children" (Nutrition).
(b) "T.B."
(c) "Enemata" - a short sequence.
(d) Commencement of "Bilharzia" - 16 mm and 35 mm.

(a) "Save the Children"

These 35 mm colour transparencies with Bantu cast deal with infant feeding for the age-groups 6-9, 9-12 and 12-18 months. There is embodied a sequence on adult nutrition since the health of parents cannot be divorced from that of the children. One set, on the gathering of wild imifino on the veld for the family's greens, has had a widespread influence.

An extra copy of the film was made, by request, for the Union Department of Nutrition, Pretoria, with a recorded narration in English and a copy of the Zulu script. The following is an extract from the letter written by the Secretary for Nutrition, Department of Nutrition, Pretoria, after previewing "Save the Children":

> "The audience was full of praise for the excellence of these transparencies. It was felt that the contents covered the subject very thoroughly while not becoming too technical or progressing too quickly.
>
> The nutrition facts were correct and were put across in a very effective manner for the story which was interwoven with the educational matter, holds the attention.
>
> Special mention must be made of the beautiful colour photography. It proved so absorbing, that there is no doubt as to the success of these pictures as a means of stimulating the interest of the Bantu in their nutrition.
>
> As there is very little illustrative material to enhance nutrition education amongh the Bantu, this Department

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is especially grateful to you for your continued interest in the production of colour transparencies. Be assured that this material is proving most useful and is appreciated very much by those who are engaged in this work."

(b) "T.B."

This colour sequence for Bantu consisting of 84 frames was produced in consultation with the staff of the King George V Hospital for Tuberculosis. It was the first known film to demonstrate the new technique of ambulatory treatment which does not require that early cases be admitted to hospital. It's narrative tells of a strong, healthy young man who leaves the kraal, finds work in the city, but neglects to feed himself on nourishing food. He begins to deteriorate physically and by a series of coincidences he realises - through films seen on a daylight cinema van during a lunch hour, by listening to a broadcast and by talking to friends at a hostel - that his symptoms are those of tuberculosis, and that he should go to the clinic. He stifles the voice of wisdom and returns home; there, still rapidly deteriorating, he is finally persuaded by a white-haired "kehle" to return to the city clinic before his wife must "break his kamba" - the cooking pot which traditionally is broken when its user dies. He goes to the clinic, recovers, gets a new job with rapid promotion and becomes such an enthusiastic protagonist of the X-ray that his contemporaries nickname him X-ray Zama. There is a sequence on nutritional foods and cheap cuts as a guide to promoting health and preventing disease. Dr. Dormer, Medical Superintendent of King George V Hospital and a noted authority on tuberculosis, was present at its first preview by the Public Health Committee. He remarked that copies should be purchased and sent all over South Africa.

(c) "Enemata."

For some time past the Department has been receiving staff reports of the dangerous and widespread practice of Bantu mothers giving enemata to their newly-born and older children. Not only are horns, reeds and other crude utensils used as instruments, but the 'muti' ranges from disinfectants and permanganate of potash to the seeds of the Intuma tree - the last being a very drastic potion. It is feared that permanent damage is often ignorantly inflicted on the children. As a first step to enlightening the Bantu, Cato Manor shacks were visited and suitable talks and warnings were given through the medium of the loudspeaker unit. A series of colour transparencies have been made for the daylight cinema van with which to illustrate further lectures on the subject.

(d) "Bilharzia".

To date, the only film available on this subject has been for the European lay public and set in very different environmental conditions from those obtaining in Durban. The urgent need for visual aid teaching on this theme for the non-European has long been felt. Following discussions with the Union Health authorities, and in liaison with them, a scenario has been prepared and preliminary shots have already been taken. Three copies of colour transparencies are being shot as well as one colour movie. The productions will be utilitarian, in that they cover the "river habits" of both Bantu and Asiatics.

Nutrition

Owing to the appointment of a Bantu lecturer for the purpose of full-time teaching the subject of nutrition has been more fully taught than any other theme. This has been due to the foresight and generosity of the Union Department of Nutrition which again guaranteed the City Council for a further year, the total expenditure incurred for the

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services of the Junior Bantu Lecturer engaged on nutrition. This post was created in 1954.

In the nature of things, the rest of the sectional lecturers can only give a portion of their time to nutrition, the remainder being given to the prevention of communicable diseases and other promotive health subjects.

The full-time Nutrition Lecturer has been trained as a film commentator and accompanies the daylight cinema van several days weekly. On other occasions he combs through shack areas, housing schemes, Bantu eating houses, locations - in fact the entire City of Durban is his parish, and his gospel is "food - what to eat, why to eat it."

In addition to teaching the basic requirements of a balanced diet, viz: the need for protein repair foods, both animal and vegetable, the comparison between unrefined foods and refined foods, the need for vegetables and fruits, etc. guidance is also given in wise purchasing at markets. The following extract from a report is a specimen of market guidance:

> "It is stated by the Department's Bantu Lecturers that during the Christmas season it is not uncommon for Bantu parents to allocate from 15/- to £1 for sweets for their children. Prior to Christmas, both by means of the loudspeaker unit and group talks, Bantu parents were urged preferably to purchase unshelled, uncooked peanuts and fruit. Uncooked peanuts are much cheaper and the Bantu know well how to cook them in their shells. Although a European child may not consider fruit and peanuts a treat, they are great favourites with the Bantu child. These talks called forth many expressions of thanks."

As a result of the Department's work on nutrition the WILD IMIFINO HAVE BEEN RE-INSTATED. The wild greens of the veld (imifino) were once amongst the most important foods of the kraal. They became neglected in urban areas, because if people were seen shyly gathering them, they were taunted by their 'civilised' compatriots as being too mean or too poor to buy market vegetables. Since the Department re-instated imifino, two years ago, through films, talks and displays, boosting their food values, Africans may be seen gathering them wherever they grow, and "with none to make them ashamed".

The manager of a large Bantu compound recently remarked to the film unit prior to screening a nutrition programme "I'm afraid the crowd won't stay your show through; you see, a cigarette firm brings cowboy films and then distributes free cigarettes". It was with no little elation that two Bantu lecturers reported that not only had the crowd stood "still as the hills" for the entire lecture, but at the end a representative spokesman said "this is the kind of film we want to see because it gives us knowledge - that cowboy stuff, it is just nonsense and we are now no longer children". The manager, a fluent Zulu linguist said "I'm very surprised - and I thought I knew the Bantu! " On some questions the illiterate Bantu has perspective. Following a talk on what comprises a balanced meal at the wharfside one lunch hour, from the crowd gathered round the loudspeaker one man said "I believe very much on feeding myself properly, especially with meat; these fellows laugh at me but I don't want to be like these fools who accumulate money, starve themselves, spend the money on drink and hit somebody's pig for which they pay a heavy fine."

Previewing Films Overseas.

During their sojourn overseas, the Health Educator and Technician were granted five days special leave on full pay for the purpose of investigating British health education techniques and programmes. Films and still more films were previewed, most of which were found

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to be unsuited to the conditions prevailing in this country. However, a selection of five films on milk production and animal husbandry was made. The titles of these films were:

"Contagious Abortion".
"Breeding for Milk".
"Winter Milk".
"Cleaner Milk Production".
"Hygiene on the Farm".

These were shown to senior officials of the staff who were unanimous in their opinions that the films had been well and wisely chosen. They were selected for the special purpose of being displayed at agricultural shows and farmers' meetings.

"Fire without Smoke", a classic on the smog problem, was also purchased for demonstrations at factories in the City.

Public Relations

Health educators often find themselves in the role of public relations officers - they might even be described as promoters of human relationships. For example, a lecturer on nutrition passed a Bantu school at the shacks; the Principal saw and hailed him. A pupil - an orphan - was produced for inspection and even to the lay eye it was an obvious case of malnutrition.

(i) The lecturer immediately reported to his sectional head;
(ii) The sectional head invoked the aid of the Native Administration Department to take the patient to hospital for examination;
(iii) This was done, and after discharge, the Native Administration Department (Social Section) undertook to supply the child with extra nutritional necessities so urgently required.

Random Gleanings from the Fields of Labour

"How shall they know if they do not hear? How shall they hear if there is no teacher?"

As a direct result of one day's loudspeaker broadcasts, ten male and female non-Europeans called upon the three lecturers concerned at the Department's offices for personal advice. They were:

(a) Six (including one teacher) who had heard the senior Bantu Lecturer on V.D. They all were directed to and attended the Department's Special Clinic;

(b) Two had received routine instructions regarding V.D. at the Native Administration Department where the Department's Bantu Health Assistant attends daily in order to enlighten all newcomers to Durban seeking work. The subsequently reported at the Special Clinic for treatment;

(c) Two Indians listened to broadcasts on tuberculosis. They were directed to, and presented themselves at, the Durban Chest Clinic for X-ray.

Incidents similar to the above weave a continuous pattern in the weekly work of the section and help to balance the experiences of the "barren soil".

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"Do not expect people to roll stones out of your way".

Let no health educator pioneering among the non-European races be so discouraged as to turn from the privilege of ploughing the first furrow toward better health. When lecturers sometimes return discouraged they are reminded of the words of one of the men of the century, Dr. Albert Schweitzer, who says "Anyone who purposes to do good must not expect people to roll stones out of his way, but must accept his lot calmly if they roll a few more upon it". They are reminded that their task as teachers is colossal, nothing short of changing the way of life of a nation or as the Missouri Health Bulletin put it "the main purpose of health education is not so much to teach people what to do but to develop the kind of people who will do what they know should be done".

TOTAL ATTENDANCES AT ALL LECTURES

Areas	European	Coloured	Bantu	Asiatic	Total
Central	382	97	114,560	8,903	123,942
Greenwood Park	14	-	10,557	13,970	24,541
Sydenham	-	35	8,303	14,438	22,776
Mayville	43	-	35,548	5,640	41,231
Umhlatuzana	-	-	15,949	8,047	23,996
South Coast	83	170	34,542	15,705	50,500
Total	422	302	219,459	66,703	286,986

FILMS AND FILMSTRIPS ALL RACES

	African Mirror	Anghi Katali	Bilharzia	Blood Fluke (Bilharzia)	Bantu Grow New Food	Centenary Film	Cleanliness Brings Health	Defence Against Invasion	Dental Caries	Disney's Tuberculosis	Feeling of Hostility	Foodhandler Slides	Hook Worm	Human Body	Insects as Carriers	Indaba Pansi Komuti	Infant Care	Mental Hygiene	Mother and her Child	Nutrition	Planning for Good Eating	Save the Children	Transmission of Disease	Typhoid Mary	Then and Now	Two Brothers	Tuberculosis	Vaccinate against Smallpox	V.D. under Discussion	What is Disease	Winged Scourge	Total Films	Total
Central	1	1	5	2	1	1	1	3	1	5	1	3	1	3	8	28	2	2	1	1	-	1	-	3	-	7	2	-	2	2	3	318 FILMS	91
Greenwood Park	4	-	1	-	-	-	-	1	-	2	-	1	2	1	3	8	-	-	-	1	1	-	-	1	-	-	-	1	2	-	-		29
Sydenham	-	1	3	-	-	-	4	-	-	-	-	-	-	-	4	1	-	-	-	-	-	3	-	-	1	-	-	-	-	-	-		17
Mayville	4	-	-	-	-	-	-	-	-	-	-	-	1	-	1	32	-	-	-	-	-	3	-	-	-	-	-	-	-	1	-		42
Umhlatuzana	-	-	2	-	-	-	2	-	-	-	-	-	-	-	4	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		15
South Coast	4	1	6	1	-	1	6	6	-	6	-	-	12	1	13	29	2	-	2	-	-	14	5	-	-	5	1	-	-	2	7		124
Totals	13	3	17	3	1	2	13	10	1	13	1	4	16	5	33	105	4	2	3	2	1	21	5	4	1	12	3	1	4	5	10		318

LOUDSPEAKER TALKS, GROUP TALKS AND LECTURES IN HALLS

	Bilharzia	Foodhandler Hygiene	Infectious Diseases	Immunisation	Nutrition	Personal Hygiene	Pest Control	D.D.T	Refuse Dumping	Scabies	Tuberculosis	Vi-test	V.D.	Isishimayana	Gastro Enteritis	Worms	Enemata	Totals
Central	325	832	221	208	1,490	163	168	9	50	25	635	269	681	15	11	20	-	5,122
Greenwood Park	23	21	74	90	151	26	62	-	11	11	42	-	17	3	4	1	-	536
Sydenham	23	16	122	123	159	47	62	8	22	12	64	-	49	2	1	1	-	711
Mayville	17	21	58	101	420	49	55	4	16	10	47	-	51	3	30	5	18	905
Umhlatuzana	37	26	91	82	278	28	72	6	26	17	42	-	32	6	8	1	6	758
South Coast	30	38	127	141	368	44	113	10	31	18	74	-	134	5	5	1	-	1,139
Totals	455	954	693	745	2,866	357	532	37	156	93	904	269	964	34	59	29	24	9,171

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XVI. MATERNITY AND CHILD HEALTH

A Child Health Section of the City Health Department was inaugurated by the City Council in 1920. Initially the service was provided for European mothers and babies.

By 1928 the service was extended to the Coloured and Asiatic population, but it was not until 1932 that clinics were established for the Bantu.

The work has increased considerably over the years, especially amongst the non-Europeans, but there is still much to be achieved particularly if religious and tribal superstitions are to be superseded by modern methods.

For comparison purposes, set out below are the numbers of clinic sessions for the years 1932 and 1955:

	E.	C.	B.	A.
1932	301	53	12	101
1955	922	166	908	472

The function of the clinic service is health education for expectant and nursing mothers and mothers of children up to the age of five years.

The object of such education is to prevent disease, and by so doing, to attain a condition of positive health.

It is desirable that every parent should know that many of the ailments and illnesses which affect children can be prevented by attention to diet, cleanliness, and training of the mind and body.

A summary of the year's activities is set out hereunder:

Notification of Births.

This year, there has been an increase in the number of notifications of births for all races except in the case of the Coloured people where there has been a decrease.

	1953/54	1955
Europeans	2,825	2,955
Coloureds	829	763
Bantu	3,976	4,980
Asiatics	5,576	5,754
Total - all races	13,206	14,452

Still-Birth Rate

There has been a decrease in the still-birth rate amongst the Europeans, and more notably so, in the case of the Coloured people.

	1953/54	1955	
European	15.6	13.02	per 1,000 total birt
Coloured	25.6	16.8	
Bantu	35.6	38.4	
Asiatics	25.3	28.5	

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Infant Mortality Rate:

The infant mortality rate amongst the Europeans is the lowest on record since 1943, being 17.9 as compared with 30.3 in 1954. The chief cause of death was prematurity.

Mortality from broncho-pneumonia amongst the Asiatics appears to be on the increase. 90 Asiatic babies died from this disease as compared with 68 in 1954.

	1953/54	1955
Europeans	30.3	17.9
Coloureds	55.3	60.2
Bantu	369.4	- *
Asiatics	67.7	70.2

* On available statistics, the rate for the Bantu is 307.6. However, as is known that all Bantu births are by no means notified, the true rate is less than 307.6

Supervision of Midwives.

Accommodation available for Maternity Cases

	E.	C.	B.	A.	Total
Hospitals	66	26	165	62	319
Nursing Homes	194	-	-	-	194

No. of Registered and Unregistered Midwives on Municipal List (Private Practice in Durban)

	Registered	Unregistered	Total
European	13	1	14
Coloured	5	4	9
Bantu	1	-	1
Asiatic	2	127	129

No. of Confinements Attended by Midwives

	Registered	Unregistered	Total
European	161	6	172
Coloured	7	-	13
Bantu	-	2,964	-
Asiatic	118		3,082

Ante-Natal Clinics.

	No. of Sessions	Total Attendances
European	37	76
Coloured	12	17
Bantu	-	-
Asiatic	97	3,908

Infant Clinics

In comparing the total attendance figures for 1955 with those for 1950 it is evident that, except in the case of the Bantu

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clinics, there has been a decline in the attendances.

The variation in attendances at the different clinics can be accounted for if the following factors are taken into consideration:

1. In the case of the European clinics, the opening of a mother and baby clinic at Addington Hospital has caused a lower attendance at the City Health clinics;

2. After the Asiatic bus centre at Victoria Street was moved to Centenary Road and Winterton Walk it was observed that Coloured and Asiatic mothers were inclined to attend their respective clinics in an irregular fashion. The mothers concerned stated in explanation that they found the increased distance to the Brook Street clinic and Gale Street clinic a handicap;

3. The opening of the Bantu clinic at Cato Manor by the City Health Department has accounted for the great increase in attendances in this section of the work.

	1950		1955	
	Total Clinic Sessions	Total Attendances	Total Clinic Sessions	Total Attendances
Europeans	939	40,080	922	32,368
Coloureds	162	9,929	166	8,469
Bantu	243	25,927	908	88,213
Asiatics	613	40,624	472	37,169
Total	1,957	116,560	2,407	166,219

Staff

The above activities have progressed under the utmost difficulties. At no time during the year has there been a full complement of personnel. As a result of this position, home-visiting which is most essential in child health services, has been considerably curtailed so that the normal running of the clinics should not be adversely affected.

West Ridge Park Clinic

When the West Ridge tennis courts were constructed the land on which the clinic building stood was required for part of the project.

The building, which was constructed of a wooden-frame with asbestos roof and walls, was dismantled and re-assembled on an adjoining Municipal site. In order that the routine services would not be interrupted whilst the clinic was re-sited, regular clinics were conducted in the mobile immunisation van.

Hillary Clinic

This clinic which has been conducted on alternate Thursdays since 1936, was suspended for a short period, due to the fact that a liquor licence had been granted to the Hillary Sports Club. The City Council did not favour the rendering of clinic services on licensed premises.

When it was clear that the liquor was stored and sold in an adjoining room with a separate entrance, and sold only during non-clinic hours, normal services were resumed.

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Medal Awards for Student Nurses: Addington Hospital

On the 15th September, 1952, the City Council adopted a resolution to provide for the annual award of one gold and one silver medal to the most outstanding student nurses at Addington Hospital.

In awarding these medals due consideration is given to examination results, standard of practical work attained, and more especially to the personal qualities and attributes of the various candidates.

The ultimate aim is to make the awards to the nurses who, in their practice of their duties subscribe to the high ideals of the nursing profession.

The awards for 1955 were as follows:

Gold Medal	-	Miss Monica June Wickham
Silver Medal	-	Miss Maureen Shirley Castle

XVII. STAFF

The year was marked by a number of changes in the personnel of the Department, of which the following were notewirthy:

On 17th July, 1955, Dr. G.H.Gunn, M.D., D.P.H., City Medical Officer of Health, retired on pension. Dr. Gunn, who joined the Municipal service on 13th November, 1925 as Assistant Medical Officer of Health, was appointed City Medical Officer of Health as from 1st August, 1929 and enjoyed a longer record of service in that position than any previous incumbent.

Dr. G.D.English, M.B., Ch.B., D.P.H., D.T.M.& H., Deputy City Medical Officer of Health, was appointed to the position of City Medical Officer of Health with effect from 19th July, 1955.

Dr. A.Stephen, M.B.E., B.Sc., M.B., Ch.B., D.P.H. who formerly held the position of Medical Officer of Health to the Port Elizabeth Divisional Council was appointed as Deputy City Medical Officer of Health and assumed duty on 2nd November, 1955.

Miss C.C.Fletcher who had been a Health Visitor in the Department since 1934 retired on pension on 8th March, 1955.

Miss A.Norgaard who had occupied positions of Health Visitor and Clinic Sister in the Department since 1945 retired on pension on 31st August, 1955.

Mr. T.G.Jeffery who had been in the Municipal service since 1931 resigned from the post of Health Inspector as from 31st December, 1955.

Although the Department has experienced considerable difficulty in obtaining qualified health personnel it has, generally speaking, managed to maintain almost it's full complement of staff throughout the year.

The following additions to the staff establishment were authorised by the City Council and the Union Department of Health where these concerned 'refundable' personnel:

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Senior Health Inspector	-	1	
Health Inspector	-	3	
Coloured Health Visitor	-	1	
Bantu Health Visitor	-	3	(in substitution for 2 positions of European Health Visitor which had remained vacant for several years).
Indian Female Clinic Aid	-	1	
Bantu Clerk	-	1	
Bantu Spotter	-	6	(in substitution for 6 positions of Bantu Health Assistant deleted).

The staff establishment at the close of the year was:

Section and Position	No. of Positions	Incumbent/Remarks
City Medical Officer of Health		Dr. G.D.English, M.B., Ch.B., D.P.H., D.T.M.& H.
Deputy City Medical Officer of Health	1	Dr. A.Stephen, M.B.E., B.Sc., M.B., Ch.B., D.P.H.
Assistant Medical Officer of Health	1	Dr. D.H.Hooper, M.B., Ch.B., D.P.H.
Administration		
(a) European		
Administrative Officer	1	Thomson, A.H. (M.R.S.H.)
Chief Clerk (Administration and Financial)	1	Donkin, F.D.
Chief Clerk (Legal and Technical)	1	Poplett, D.J. (M.R.S.H.)
Senior Clerk (Grade I)	1	
" " (Grade II)	1	
Clerk (Grade I)	3	
Clerk (Grade II)	1	
Clerk (Grade III)	3	
Clerk (Grade IV)	7	
Lady Assistant	4	
Enquiry Clerk	1	
Chief Typist	1	
Senior Typist	2	
Typist	5	
(b) Non-European		
Office Assistant Indian	1	
" " (Junior) "	1	
Messenger/Cleaner (Indian	3	
(Bantu	2	
Epidemiology (embracing tuberculosis, infectious diseases and venereal diseases control)		
(a) European		(Note: The following staff is posted from the Health Visiting and Health Inspection Sections for full-time duty in this Section: T.B.Control: 5 Health Visitor I.D.& V.D.) 1 Senior Health Control:) Inspector;) 1 Health Visitor
General Assistant (2nd Grade)	1	
Driver/Assistant	1	
Lady Assistant	1	

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Section and Position	No. of Positions	Incumbent/Remarks
		Immunisation: 3 Health Visitors)
(b) Non-European		
Health Assistant Indian	7	2 posts vacant
" " Bantu	11	
Messenger/Cleaner Indian	1	
Health Inspection		
European		
Chief Health Inspector	1	Groom, G.F. Sanitary (Health) Inspector's and Meat and Other Foods Certificates of the Royal Sanitary Institute.
Deputy Chief Health Inspector	1	Johnston, M.M. Sanitary (Health) Inspector's Certificate of the Royal Sanitary Institute.
Senior Health Inspector	9	Ashdown, N.D. Sanitary (Health) Inspector's and Meat and Other Foods Certificates of the Royal Sanitary Institute. Bannon, J.D.) Sanitary Clayton, A.) (Health) Clemenson, J.L.) Inspector's Crickmore, C.R.A.) Certificate of Hornby, A.V.) the Royal Ingram, W.A.) Sanitary Smith, A.M.) Institute. 1 post vacant. Allocated to: District and Food Hygiene (5), Epidemiology (1), Dairies (1), Field Hygiene (1), Plans and Housing (1).
Health Inspector	35	All qualified personnel. Allocated to: District and Food Hygiene (31), Dairies (3), Plans and Housing (1). 4 vacant posts.
Health Assistant	6	
General Assistant (1st Grade)	5	Engaged full-time on rodent control.
Veterinary Hygiene		
European		
Veterinary Medical Officer.	1	Dr. F.E.Cavanagh, B.VSc.
Laboratory Assistant	2	

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Section and Position	No. of Positions	Incumbent/Remarks
Field Hygiene		
(a) European		
Supervisor	1	Nourse, A.D.
General Assistant (1st Grade)	1	
General Assistant (2nd Grade)	6	
(b) non-European		
Clerk Bantu	1	
Field Assistant Indian	5	
Health Assistant Bantu	2	
Spotters (Mosquito) Bantu	6	
Labourers Indian and Bantu	83	Includes 7 supernumery positions
Health Visiting		
(a) European		
Chief Health Visitor	1	Eckhoff, Miss E.J. (Medical and Surgical, Midwifery, Mothercraft and R.S.I. Health Visitor's and School Nurse's Certificate)
Senior Health Visitor	1	Robinson, Miss S.E.H. (Medical and Surgical, Midwifery, Mothercraft and R.S.I. Health Visitor's and School Nurse's Certificate)
Health Visitor	25	All suitably qualified personnel. Allocated to: Family Health Service (16), Epidemiology (9) (including 3 on immunisation).
Clinic Sister	3	(All suitably qualified personnel.
Clinic Assistant	9	(Allocated to Family Health Service.
(b) Non-European		
Health Visitor Coloured	1	Post vacant
" " Bantu	6	All suitably qualified
Clinic Nurse Bantu	1	Suitably qualified.
Female Nursing Assistant Bantu	3	
Female Nurse Aid Indian	7	
Clinic Orderly Bantu	1	
Interpreter/Cleaner (Female) Bantu	1	
Messenger/Cleaner Indian) Bantu)	6	
Watchmen Bantu	2	
Family Health (Child Hygiene) Service		
European		
Clinical Medical Officer	1	Dr. H.E.Rose, M.B., Ch.B.
Part-time Clinical Medical Officer	1	Post vacant
Part-time Medical Specialist	1	Dr. L.Raftery, M.R.C.O.G. M.R.C.S., L.R.C.P.

Section and Position	No. of Positions	Incumbent/Remarks
Health Education		
(a) European		
Health Educator	1	Goddard, Miss E.
Technician	1	Godfrey, D.M.
General Assistant (2nd Grade)	1	
(b) Non-European		
Lecturers (1 Indian and 1 Bantu)	2	
Lecturer (Junior) Bantu	1	
" " "	1	(Employed full-time on nutrition (education of Bantu. Full (refund of expenditure on this (post granted by Union Depart- (ment of Nutrition.
Health Assistant Indian	1	Post vacant
" " Bantu	1	
Non-European Health and Medical Services.		
V.D.Clinic Staff.		
(a) European		
Senior Clinical Medical Officer (City Venereologist)	1	Dr. R.S.Dewar, M.V., Ch.B.
Clinical Medical Officer (Female)	1	Dr. M.McAuliffe, M.B., M.R.C.S.
(b) Non-European		
Bantu Medical Officer	1	Dr. C.N.Dhlamini, M.D., L.R.C.P., L.R.F.P.S.
Nurse Bantu	4	Suitably qualified personnel
Clinic Orderly (Senior) Bantu	1	
Sideroom Worker (unqualified) Bantu	4	
Clerk "	4	
Labourer "	1	
Medical Bureau		
European		
Senior Clinical Medical Officer	1	Dr. M.Casson M.D., M.R.C.S., L.R.C.P.

TOTAL STAFF ESTABLISHMENT

European	154	
Non-European	172	(including 7 supernumery labourers)
Total	326	

REPORT 'B' - HOUSING

The essential information required to present a concise review of the City's housing embraces three headings:

(a) the needs of the population;
(b) accomplishment by the Corporation in the past; and
(c) progress during the past twelve months.

Under the first heading the gathering of information is complicated by the unstable nature of the population. This applies to all races but most emphatically to the Bantu population. Investigation by the Institute for Family and Community Health, Merebank shows that even in a relatively stable population, such as that living in Lamont Location only a small proportion are of the second generation to live in that particular area.

This Department is no longer directly connected with the provision of housing but the health implications remain its concern.

The substance of this report therefore consists of statistics provided by the City Engineer's and Native Administration Departments augmented by observations based on surveys and sampling by officials of the Health Department. Use has been made of the Mayor's Minute, 1954, (City Treasurer's housing review), the Natal University Survey of Durban Housing of 1953, and the City Treasurer's Summary of Durban Corporation Housing Schemes as at 31st July, 1955. Officials of the City Engineer's Department, the City Treasurer's Department (Housing Section) and the Native Administration Department have given valuable aid and information.

For convenience the report is divided according to racial groups.

EUROPEAN HOUSING

The still rapidly increasing tempo of Durban's industrial development has brought about great changes in the European population. Not only has there been an increase due mainly to influx, but there have been changes in the distribution according to economic levels. Without a constant survey it is well-nigh impossible to say what the economic level is which has to be reached before an individual can acquire his own house through private enterprise, or what the ratio is of persons who require assisted housing. The accepted criteria in other races, namely the number of slum dwellings and extent of overcrowding do not apply quite to the same extent in the European group.

Estimated Shortfall.

An inter-departmental Committee was appointed by the Council in 1953 to investigate the housing needs of Durban's population. The findings of this Committee, as regards Europeans, were as follows:

Immediate requirements (overall)	3,000
Requirements for next ten years	10,000
Total requirements over ten years	13,000

The Council, in February 1955, framed a housing programme which envisaged construction of assisted housing at the rate of 300 houses per annum. It further adopted the policy that so far as possible dwellings for Europeans should not exceed £1,600 in cost, excluding land.

Existing Housing Schemes.

Since 1927 the Council's efforts have been directed towards five different methods of assisted housing:

(a) Economic Selling Schemes.

Between 1922 and 1954 the Council undertook thirty schemes of this type in different parts of the City. Some 1,300 houses have been constructed for sale, at selling prices which range from £569 to £3,360. The monthly interest and redemption charges to be met by the owner vary from £3. 0. 6. to £15.10. 7. over periods of from 22 to 40 years.

These schemes were of two types namely those erected to relieve the housing position among average wage earners, and those providing housing for the poorer classes.

The chief details are reflected in the tables at the end of this section.

(b) Loans to Individuals

These loans, from the Council's own funds or from Government funds, enable applicants to construct dwellings for their own occupation. In addition the Council has exercised its pre-emptive right to purchase properties and re-sell them under the "loans to individual" schemes. The rates of interest have risen from 3¼% on the older schemes to 7⅞% on the latest. Over two and half million pounds, of which a million and three quarters came from the Council's Funds, have been allocated in these loan schemes.

(c) Economic Letting

The Council has completed six schemes for the erection of flats. The latest one, Elwyn Court in Point Road, consisting of 140 two or three roomed flats, was completed during 1954. The rentals vary from £10.15. 6. to £19.15. 0. per month. Altogether 674 flats have been completed and are let by the Corporation.

(d) Sub-Economic Letting

In 1938 the Council constructed 50 houses in the Fabian Estate at Clayton Gardens for aged people of limited means. These are two roomed semi-detached houses and the rentals are £1. 5. 0. per month. The scheme was financed from Government 1/20% and ¼% funds repayable over 30 years.

(e) National Housing Letting.

In 1948 the Rapson Road flats were constructed. They are let to elderly women of limited means at rentals of £4. 0. 0. to £6. 0. 0. per month. There are 55 double and single flats.

Progress in 1955.

Economic Houses built (Woodlands)	138
Loans to Individuals	81
Total	219

SUMMARY OF EUROPEAN HOUSING AS AT 31st JULY, 1955.

	Homes	Flats	Total Cost
A. ECONOMIC			
Selling Schemes - completed	1,201	-	£2,382,437
" " - under construction	200	-	£566,901
Loans/Partly paid land, to individuals	1,132		£2,326,337
Letting - completed	-	674	£1,231,044
B. SUB-ECONOMIC			
Aged poor	50	-	£33,164
National Housing - letting	-	55	£54,995
	2,583	729	£6,594,878 (54% of total housing expenditure)

European Population of Durban: (Estimated) 148,826
Percentage of Total Population: 29.7%

COLOURED HOUSING.

The Coloured population of Durban is estimated at 18,718 and thus forms a relatively small portion of the community. Nevertheless the Council has been active in providing housing for the Coloured community, which in Natal tends to be of a higher status socially and economically than its Cape counterpart.

Estimated Shortfall

The inter-departmental Committee's findings in 1953 were as follows:

Estimated immediate requirements	1,000 houses
Estimated requirements after following ten years	1,500 "
Estimated total over ten years	2,500 "

The amount of housing which will be provided by private enterprise is probably not large.

The Council in February, 1955 envisaged that housing should be provided at the rate of 100 units per annum.

Housing Schemes

Since 1939 the Council has been active in providing Coloured housing under various schemes.

(a) Economic Selling.

Since 1939 three schemes have been completed at Sparks Estate, while a further four schemes are under construction. The sale price in the existing schemes varies from £784 to £1,287, while the new houses will sell at from £1,030 to £1,114. The monthly rentals are from £3. 7.10. to £5.16. 1. per month over periods of 29 to 40 years.

(b) Loans to Individuals

These are granted to individuals to enable them to build houses for their own occupation. The loans have been financed from

Government or Corporation funds and the rates of interest have varied from $3\frac{1}{4}\%$ in the early schemes to $4\frac{7}{8}\%$ in the later ones. They are repayable over periods of 30 to 40 years.

(c) National Housing Letting

In 1941 the Council constructed the Melbourne Road flats, a two, three and four roomed flat scheme. The rentals are from £2.10. 0. to £5. 0. 0. per month.

In 1941 and 1951 two groups of houses for letting were constructed at Sparks Estate. The rentals are from £3.10. 0. to £4.10. 0. per month.

Progress in 1955.

Economic Selling	125 houses
Loans to individuals	26 "
Total	251 "

SUMMARY OF COLOURED HOUSING (31st JULY, 1955)

A. ECONOMIC

	Houses	Flats	Total Cost
Selling schemes - completed	67	-	£92,851
" " - under construction	154	-	£169,036
Loans to individuals	35	-	£68,824
National housing - letting	49	-	£38,356
" " "	-	64	£45,584
	305	64	£414,651 (3.4% of total housing expenditure).

Coloured Population of Durban: .. .. (Estimated)	18,800
Percentage of Total Population:	3.7%

INDIAN HOUSING

The Indian population is increasing rapidly by natural increase (excess of births over deaths). There is probably not as much influx as with other races. It follows that there will be a "younger" population than among other groups, i.e. a greater population of children, and consequently a greater need for family type housing.

Estimated Shortfall

The inter-departmental Committee's findings were as follows:

Immediate requirements (1953)..................	9,000 houses
Requirements over next ten years	12,000 "
	21,000 "

A larger percentage of Indians than Coloureds or Bantu can afford to build their own houses by private enterprise.

The Council's programme for Indian housing (February, 1955) envisaged construction at the ratio of 600 houses per annum.

Council's Existing Housing Schemes

The Council commenced assisted housing for Indians in 1939.

(a) Economic Selling

The first scheme at Cato Manor was completed in 1939 The prices ranged from £467 to £627 repayable over 30 years at the rate of £2. 2. 4. to £2.16. 9. per month.

In 1955 the first section of the Springfield scheme was completed. The sale price ranges from £1,456 to £1,536 repayable over 40 years at the rate of £6. 0.11. to £7. 5. 3. per month. There are four further sections under construction at Springfield.

(b) Loans to Individuals.

Between 1925 and 1955 the Council assisted 127 individuals to build houses for their own occupation. The rates of interest varied from 3¼% to 4⅞%.

(c) Sub-economic Letting

From National Housing Funds the Council has completed four schemes since 1939. The monthly rentals range from 15/- to £2. 5. 0. depending on the type of house and the date of construction.

Progress during 1955

Economic Selling .... (Springfield)	173 houses
Loans to Individuals	26 "
Total	199 "

SUMMARY OF INDIAN HOUSING (31st JULY, 1955)

	Houses	Total Cost
Economic Selling - completed	100	£106,163
" " - under construction	185	£220,204
Loans to individuals	127	£217,379
National Housing - letting	819	£608,787
Total comitments	1,231	£1,152,533 (9.5% of total housing expenditure)

Indian Population (Estimated)	166,100
Percentage of Total Population	33.6%

BANTU HOUSING

Shortfall

It is estimated by the Manager, Native Administration Department that 16,000 family units are required plus another 8,000 to keep abreast of population increase, and 20,000 beds in single quarters. In other words, no less than 100,000 Bantu are living under unsatisfactory conditions and must be re-housed. This is a conservative estimate, based on five persons per family unit, whereas at present 8 to 10 persons on an average occupy these units.

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Construction in 1955

The following family housing units were constructed during the year 1955:

Umlazi Glebe Lands	93
Lamont Location	192
	285

In addition an extra 213 beds were provided in the single dormitories by a "re-shuffle" in the accommodation.

In the Cato Manor Emergency Camp the process of taking over old shack sites and allocating new serviced sites continues. Up to June, 1955, 1,756 new sites had been allocated and 1,502 old sites taken over making a total of 3,258 sites under the Council's control.

In developing the Cato Manor Emergency Camp along temporary lines, the Council aims at acquiring some 558 acres of privately-owned land and supplying the essential services of roads, stormwater drainage, street lighting and sanitation. The sanitary and water needs of the population are served by ablution blocks, which are equipped with water closets, showers and washing slabs. Loans of building material to the value of £20 are available to Bantu site holders and are repayable at 10/- per month. The new homes (shacks) are built under supervision and must conform to certain minimum standards.

Up to June 1955 the number of new shacks was as follows:

New shacks completed	847
New shacks under construction	742

In 1955, in an endeavour to accelerate progress in Bantu housing the City Council approved the formation of a Special Native Housing Committee, comprising the Mayor (ex officio), 3 Councillors and 2 persons representing organised Commerce and Industry. The Committee held its first meeting in June, 1955.

The Duff's Road Housing Scheme, with an estimated capacity of about 16,000 housing units is still under consideration.

Existing Housing Provisions

Locations (Family Housing)	No. of Houses	Population (Estimated)
Baumanville Location	120	800
Jacobs Location	19	100
Lamont Location	1,679	12,000
Chesterville Location	1,265	7,900
Umlazi Glebe Lands Location	613	3,900
Total	3,696	24,700

Hostels and Dormitories	Beds
Somtseu Road (Male)	7,040
S.J.Smith - Merebank (Male)	4,128
Dalton Road (Male)	1,662
Jacobs (Male)	735
Bell Street (Male)	1,130
Ordnance Road (Male)	447
Grey Street (Female)	687
Jacobs (Female)	64
Total Single Quarters	15,893

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Total persons housed Municipally 40,593
Estimated Bantu Population of Durban 167,508

The details of the various Locations and Hostels are as follows:

Baumanville Location

Completed - 1934
Houses - 120
Water supply: Piped to individual houses.
Sanitation: Water closets individual houses.
Ablution: Showers individual houses.
Washing gullies individual houses.

Jacobs Family Houses

Completed - 1939
Houses - 64
Water supply: 4 communal standpipes
Ablution: 12 communal showers
2 washing gullies
Sanitation: 12 communal water-borne.

Lamont Location

Houses (to date) - 1,679
Water supply: 1,463 houses have water laid on
216 have communal standpipes (35)
Ablution: 1,463 houses have showers provided
393 washing gullies (communal)
Sanitation: 1,463 houses have water closets
250 pit latrines
Clinic Services: Institute for Family and Community Health, Merebank.

Chesterville Location

Completed - 1946.
Houses - 1,265
Water supply: Individual piped
Ablution: Individual bathrooms and washing gullies.
Sanitation: Individual water closets
Clinic Services: Mother and baby clinic weekly - City Health Department;
Ante-natal clinic - McCord Zulu Hospital.

Umlazi Glebe Lands

Houses (to date) - 613
Water supply: 42 communal standpipes
Sanitation: Individual pit privies.

Hostels and Dormitories

These hostels were built over a number of years starting with the Ordnance Road Hostel in 1911. The latest one to be completed was the S.J.Smith Hostel at Merebank, which cost approximately £500,000. They represent a phase in the history of Durban Bantu housing in which the emphasis was on single accommodation for migrant labour. The type of accommodation varies from single rooms to 40 bed dormitories, the bedding from hardboards to spring beds and mattresses, and the charges from 3d. per day for casuals to 15/- per month for the better type of accommodation.

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These hostels are all provided with water, electric light and water-borne sanitation. Some have showers and a few have bathrooms. Some have kitchens and some have dining halls. Others provide blankets and pillows. In general, apart from the danger of overcrowding, they provide a reasonable example of the compound system of housing migrant labour and provided the supervision is sufficiently keen, they can be kept in a reasonably hygienic state. Unfortunately there remains that larger problem, the fundamental social disruption inherent in the system of migrant labour.

Slum (Shack) Distribution and Elimination

There has been a steady decrease in the number of shacks in all areas, due to the activities of the Native Administration Department in their shack removal programme. The occupants of the demolished shacks are housed in Municipal locations or at Cato Manor, or have left the Borough area, or have crowded into other existing shacks. It is estimated that the average number of occupants in a shack is from 8 to 10.

The estimated distribution of shacks in the different areas is as follows;

	December 1952	December 1955
South Coast Junction	314	228
Umhlatuzana	268	134
Sydenham	360	60
Mayville	8,942	7,025
Greenwood Park	245	100
Old Borough	224	Nil
Total	10,393	7,547

Control of Premises (Slums) in Zoned Areas

In 1939 regulations were framed under Section 32 of the Slums Act of 1934. A number of Zones were declared, with the object of cleaning them up more rapidly and simply than was possible under the Slums Act itself. Steady satisfactory improvement has been made in all Zones embracing residential areas. But in those areas which are set aside as business or industrial areas under the Town Planning Scheme, progress has been much slower.

Cato Manor

The face of the shack area at Cato Manor is changing rapidly since a portion of the area has been expropriated by the Council and used as an emergency camp. This area has been re-subdivided and access roads provided. On the sites allocated to the tenants are to be seen new shack-type dwellings in various stages of construction, many of which are surprisingly well built and are a credit to the adaptability of the Bantu.

There is no doubt that such a "site and service" scheme is a temporary means of providing quick relief to the housing shortage of the Bantu at a low cost to the community.

"Area 4" is accommodating a population of approximately 4,000 - 5,000 inhabitants and, to date, has not been developed on the same lines as the remainder of the Emergency Camp; this shack settlement must be considered a real menace to the public health.

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The area is very much overcrowded and lacks suitable access and service roads. Pit privies, due to over-use and the non-absorptive nature of the soil, rapidly become full and give rise to prolific fly and mosquito development. These conditions necessitate constant attention by the Field Hygiene Section.

Furthermore, lack of refuse removal service within the area results in indiscriminate and wide-spread dumping of garbage. However, a certain amount of relief and improvement in this direction has been effected by the Native Administration Department. Fifteen Bantu sweepers are now constantly engaged in collecting the refuse and removing it to collecting points on the main access roads in the neighbourhood whence it is picked up by the Cleansing Section of the City Engineer's Department.

The Inter-departmental Committee re Cato Manor Emergency Camp is now giving consideration to the development of "Area 4" in order to provide the essential pre-requisite to public health control namely, communal conveniences with water-borne sewerage, access road for the purpose of providing proper refuse removal services, and the provision of a more adequate water supply.

"Area 1 B" has made favourable progress; new roads have been developed and hardened and the erection of sanitary/ablution blocks with reticulation to the municipal sewer is in progress.

The tempo of illegal trading in the Emergency Camp remains almost unchanged in spite of numerous prosecutions instituted by the Licensing Department.

Building Plans

The following is a summary of building plans examined by this Department, and approved during 1955:

Type of Structure	No. of Plans	No. of Units	Estimated Cost
New private dwellings - 2 rooms	32	32	
" " " - 3 rooms	99	99	
" " " - 4 rooms	275	275	
" " " - 5 rooms	589	589	
Corporation houses - 3 rooms	55	55	
" " - 4 rooms	46	46	
" " - 5 rooms	54	54	
Total Dwellings	**1,150**	**1,150**	**£2,879,646**
Flats - 1 room		996	
" - 2 rooms		977	
" - 3 rooms		396	
" - 4 rooms and over		126	
Total flats	145	2,495	£3,618,899
Additions to flats and dwellings	1,710	-	£466,392
Stores, shops, offices, factories	108	-	£2,746,966
Additions to stores etc.	783	-	£464,132
Clubs, halls, schools, churches	48	-	£678,622
Additions to schools, etc.	81	-	£563,320
Total	2,730		£4,919,432
Grand Total	4,025	3,645	£11,417.977

NOTE: The above figures do not include 7 Government and Durban Corporation buildings valued at £153,533.

APPENDIX "A"

"OBSERVATIONS ON THE EPIDEMIC OF ENCEPHALOMYELITIS AFFECTING THE NURSING STAFF OF ADDINGTON HOSPITAL."

by Dr. T.M.Adnams

NOTE: During September, 1955, Dr. T.M.Adnams, who was then Assistant Medical Superintendent of the Addington Hospital, prepared a memorandum under the above title in which he gave a concise account of the outbreak of the so-called "Mystery Disease" at the Hospital and at the same time briefly described the clinical features of the disorder.

The Natal Director of Provincial Medical and Health Services (Dr. R.L.Stevenson) has kindly granted permission for Dr. Adnam's memorandum to be incorporated in the present Annual Report of the City Health Department. It is desired gratefully to acknowledge the courtesy extended to the Department by the Director and also to thank Dr. Adnams for his valuable contribution.

The text of Dr. Adnam's report is as follows:

"On 8th February, 1955, a pupil nurse at Addington Hospital reported ill with headache and weakness of the left arm and leg. An epidemic of poliomyelitis was prevalent in Durban at that time and she was therefore transferred to the Fever Hospital at Wentworth for observation. Further nurses reported with similar symptoms on the 14th, 16th and 18th February and five more reported ill on 19th February. Between 21/2/55 and 25/2/55, 60 more nurses reported and thereafter until 7th April there were another 26 cases at irregular intervals. Two others were taken ill at home while on vacational leave.

At that time there were somewhat over 400 nurses employed at Addington Hospital and of these a total of 98 were affected by the epidemic to a varying degree. The disease was confined to European females and with the exception of one Lady Warden of the Nurses' Home, only members of the nursing staff were affected. There were no cases among the medical, medical auxiliary, clerical and domestic staffs of this hospital, nor were any of the inpatients known to be affected.

The ages of the nurses varied from 17 to 44 years, but the vast majority were in the age group of 18 to 25 years. It is interesting to note that there was only one case among a group of about 40 nurses who had just started their preclinical training on 1st February, 1955, but who were also resident in the nurses' home. The incidence of cases among the resident and non-resident nursing staff was approximately proportionate.

Cases of a similar nature occurred among the population of Durban and its environs, and the outbreak also affected some males and non-Europeans.

The first few cases were tentatively diagnosed as atypical poliomyelitis, taking into account the negative C.S.F. findings and the sensory changes. However, as the tempo of the outbreak increased it was realised that we were dealing with some strange new and unknown disease, which in many essentials closely resembled the description given of similar outbreaks in Iceland, Coventry and Middlesex.

The initial daignosis did not present any difficulty. All of the cases presented with a typical very severe occipital headache. This was accompanied by stiffness of the neck muscles, backache and weakness of the back and abdominal muscles. The inability of the patients to sit up unaided from the supine posture soon became a diagnostic feature of importance. Usually at this stage or within 24

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hours thereafter there was a feeling of heaviness and weakness with "pins" and "needles" in one or more limbs. Many stated that they felt that the affected part did not belong to them. At this stage some paresis was demonstrable particularly against pressure. Sensory changes included patchy dulling to pain and light touch; diminution in vibration sense; and sometimes loss of position sense over the affected part.

Prodromal symptoms of lassitude, sore throat and gastro-intestinal upsets were sometimes volunteered as having occurred during the previous 10 to 14 days. In most cases this information was only forthcoming after direct questioning. The symptoms which eventually brought the nurses to the Sickroom were mostly the intense headache and the bewildering, and often sudden, onset of paresis. A low pyrexia and a disproportionate tachycardia were very common presenting findings. The preponderance of paresis affected the left side, but appeared to be unrelated to the laevo-dexterity of the individual.

The course of the disease varied in its severity. A few of the milder cases showed an early retrogression of symptoms and there was full recovery of muscle power within a few days. In these cases there was a period of convalescence lasting from a week to a month during which there was a feeling of muscular aching or tiredness and occasional mild headaches before eventual full recovery.

In the middle group of cases the initial symptoms increased during the first few days with headaches and muscle pains predominant. Thereafter, there was a gradual improvement with the return to normal taking about 3 or 4 months.

In the more severly afflicted progress has been much less happy. These have known a distressing tendency to relapse. Relapses often involve limbs previously unaffected and involved them to a more severe degree than was present initially. This group of cases have shown a relatively slow improvement and most of them still show residua extending in degree from the insignificant to the crippling. Certain of this group are still having severe relapses seven months after the onset of the illness.

About ten of these cases had retention of urine with overflow incontinence and a tendency to polyuria. One such case progressed to reach a clinical state of diabetes insipus which was and still is, only controlled by the administration of pitression.

In many cases there was a degree of constipation but this was fortunately, usually satisfactorily overcome by the regular intake of paraffin lubricants.

Subcostal pain of the Bornholm type was frequently encountered. In the more severe cases this was accompanied by persistent retching and vomiting. In one case there was associated respiratory embarrassment and a short period in the artificial respirator was necessitated.

In no cases was there any enlargment of the liver or of the spleen. Enlargement of the cervical lymph glands was overlooked but has been observed retrospectively.

Several cases complained of earache and deafness. In at least six of these there was a dry otitis externa with a herpetic eruption on the affected eardrum. Audiograms showed a mild nerve deafness in these girls.

Some cases showed peeling of the skin from the palms and soles a few weeks after the onset and usually during their convalescent phase.

Apart from the physical aspect of this disease with the varying and widely-spread paretic involvement of muscles of the face, trunk and limbs there have been symptoms of a more subjective nature which prove far more difficult to assess. Such symptoms are usually prominent only where the physical disability persists and are almost invariably associated with headache. These symptoms include such phenomena as inability to concentrate; defective memory; persistent drowsiness; emotional instability; irritability of temperament; nightmares etc. The reality of the first two mentioned is confirmed by the Sister Tutors who are able to compare the ability of their pupils before and after the onset of the disease.

The general attitude of the nurses in the early stages of their illness was one of euphoria with a commendable keenness to get better and return to their work. Such types brushed over their disabilities with levity. Others however were depressed and apathetic particularly the more highly strung types and it is perhaps noteworthy that these are now strongly represented among the cases still showing serious and distressing sequelae.

There were several instances of clonic "fits" during the epidemic. In these there were uncontrollable shaking movements with muscular twitchings. They were not preceded by hyperventilation. Some cases still complain of muscle twitchings and at least one case still gets occasional attacks of uncontrollable shaking. This type of case still shows a clonic type of movement when attempting to resist pressure with the paresed limb.

Reflexes in the affected limbs were usually altered varying from increased to depressed and occasionally absent. Equivocal plantar responses were sometimes obtained but on careful examination no true extensor plantar response was seen in any patient.

Recently an assessment has been made to ascertain the present position as regards disability. The findings are tabulated hereunder:

1.	Number discharged to full duty with no apparent residua		50
2.	Number on duty with mild residua		21
3.	Number on duty with more serious residua		11
4.	Number on sick leave with serious residua		7
5.	Number unassessed)	Resigned	5
6.	Number unassessed)	On vacational leave	2
7.	Number relapsed and readmitted to hospital after return to duty		2
		TOTAL	98

To date no case assessed as free of physical signs and/or subjective sequelae has had a recurrence of symptoms. In other words relapses have only occurred among those cases who still demonstrate paresis; sensory impairment; headache; backache or a marked degree of the subjective phenomena mentioned above.

Muscular wasting has never been evident at any stage of the disease.

Extensive clinical, laboratory and epidemiological investigations have so far failed to reveal any definite clue which may lead to the solution of this problem. Whether the condition is infectious or intoxicant in origin has yet to be proved, although the balance of evidence appears to weigh on the side of a virus infection.

No specific treatment has yet been found for this condition. While the disease is still active, complete bedrest is essential as any muscular exertion leads to a relapse. Over exertion must be avoided at any and all stages of the disease.

In the early stages physiotherapy appears to be detrimental and contraindicated, and at no stage was physiotherapy of any real assistance. On the other hand recreational and occupational therapy did improve the morale of the more severe cases, and thus they also lightened the difficulties of their colleagues who were nursing them.

After two or three months in the more intractable cases it was necessary to encourage the patients to attempt movements in order to promote recovery.

20th September, 1955. " T.M.Adnams

APPENDIX "B"

INVESTIGATIONS CARRIED OUT BY THE CITY HEALTH DEPARTMENT INTO AN OUTBREAK OF ENCEPHALOMYELITIS OF UNKNOWN ORIGIN OCCURRING IN DURBAN DURING 1955.

At the invitation of the Addington Hospital authorities, the City Health Department commenced its investigations into the Hospital outbreak a few days after the first few members of the nursing staff had sickened and shortly before the institutional attack had gained momentum. The investigations, which were carried out under the directions of the then Deputy City Medical Officer of Health, were both intensive and extensive in character and were continued almost without intermission, over a period of eleven weeks.

For the first few days, the investigations were confined to the Hospital but were soon extended to cover fields elsewhere in the town. Despite the amount of time and labour expended on these investigations when many avenues were explored and numerous suggestions followed, the results were always the same - no positive evidence was forthcoming which could throw any light on the cause of the outbreak and in the end its epidemiology remained obscure.

But certain interesting facts emerged which led the City Health authorities to the conclusion that the outbreak at the Hospital was, in effect, only a well-marked episode in the course of an infection which had been passing through the general population for some weeks or even months, and which remained unrecognised until it broke out with explosive force at the Hospital.

In order to place the outbreak in its proper perspective it would seem necessary to mention, in view of the recorded association between previous outbreaks of Iceland Fever and epidemics of poliomyelitis, that a similar relationship also existed in Durban where a sharp epidemic of poliomyelitis manifested itself during the period September, 1954, to April, 1955.

The initial inquiries carried out by the Health Department were naturally directed to conditions in the Hospital and in the Nurses' Home. The standard of general sanitation in these institutions was closely studied and the prevalence of any rodents and insect pests investigated. Special attention was directed to the questions of kitchen hygiene, utensil sanitation and food-handler practice. The sick records of members of the kitchen staffs, together with those of the auxiliary staffs of certain wards where the incidence amongst the nursing staff was unusually high, were scrutinised. The case-histories of all patients admitted over a period to these particular wards were also examined. Samples of food and water were submitted for bacteriological and chemical analysis. Special note was taken of the insecticides and disinfectants in use and their method of employment and even the preparations in the equipment of a hairdresser in the Nurses' Home came under scrutiny. In short, all the usual public health inquiries were made and, exhaustive as they were, no clue of any importance was discovered and the investigations into the environmental conditions of the Hospital failed to reveal any cause for the outbreak.

It was noteworthy that food items used in both the Hospital and Home kitchens were requisitioned from common sources and drawn from a common store-room. Neither at the beginning nor throughout the whole course of the outbreak did any cases occur amongst the hundreds of patients accommodated in the Hospital and their insusceptibility to this disease was a most baffling and perplexing element in the investigations. It certainly appeared as if a food factor could be eliminated as a cause. Furthermore, the absence of cases amongst the patients certainly did not support the view that an infective agent was responsible for the outbreak; on the contrary, it rather lent countenance to the theory that the cause of all this trouble was in the nature of some form of intoxication.

The Addington outbreak commenced by the admission of the following "poliomyelitis" patients - all nurses - to the fever wards of the Wentworth Hospital:- 8th February, one case; 14th February, one case; 16th February, one case; 18th February, one case.

On the 18th February, after the fourth "poliomyelitis" cas had been diagnosed, the Deputy City Medical Officer of Health telephoned the Medical Superintendent of the Hospital and, at the latter's request, the Deputy visited the institution and indicated the nature of the precautionary measures he recommended should be carried out to prevent the spread of the infection. During the next three days more nurses sickened and it was during this period that considerable doubt was thrown on the diagnosis and the observation brought forward by members of the Hospital medical staff that the clinical features of the disease were not dissimilar to those previously described for cases of Iceland Fever (Icelandic Disease).

On the 21st February - and on subsequent days - all the nurses who had been admitted to Wentworth Hospital were interrogated and their histories recorded. From the special circumstances of one patient, who had only returned from vacational leave to Durban at the end of January, it was computed that the incubation period of the disease, at any rate in her case, was as short as one week.

Later, it was decided to extend the scope of this special inquiry and a group of twenty patients - all nurses - were again interrogated and special questionnaire forms completed in respect of each patient. The questionnaire called for information from each patient on the following points

(a) Nature of fabrics worn;
(b) Certain features regarding accommodation;
(c) Types of food consumed;
(d) Personal requisites in use;
(e) Contact or otherwise with brands of insecticides, disinfectants, detergents, cleansing fluids and other chemicals;
(f) Insect pests in the environment;
(g) Medicines (including proprietary medicines) commonly taken;
(h) Dietary habits.

No common factor was traceable amongst all these items.

Some time after the above investigation had been concluded, a second questionnaire was prepared in the light of fresh information and a further twenty patients, not on the staff of the Hospital, were interrogated. This questionnaire dealt with the following matters:

(a) Types of tinned foodstuffs, sweets and sweetmeats taken;
(b) Association with Addington Hospital and members of its staff;
(c) Visits to the Point, particularly to shops in the area;
(d) Association with visitors from the Point area;
(e) Recreational activities such as bathing, boating, yachting and fishing.

From this investigation, it emerged that four of these patients had not visited the Point area for months, that six avoided eating any tinned foods at all times: as regards the remainder of the replies nothing of significance was unearthed.

As the attack gathered force amongst the Hospital nurses, certain developments were taking place in the general community. For instance, on the 20th February, a European woman, aged 26 years, was admitted to the Addington Hospital from Stanger Street. She gave a history of having suffered severe headaches from the 16th. On the day following her admission, she was transferred as a case of poliomyelitis to Wentworth Hospital where, after some days, the diagnosis was amended to encephomyelitis. In passing it may be mentioned here that this patient's mother, who resided at a different address in Durban, took ill almost a month afterwards with the same malady.

It will be appreciated that, as a result of the occurrence at Addington Hospital, it was realised that a disease resembling poliomyelitis but which, in fact, was not poliomyelitis even in its atypical form, had made its appearance in Durban. As a result, from now onwards, the two entities were borne in mind in coming to a diagnosis and were often readily differentiated.

On the 23rd February, three patients, who had no connection with the Addington Hospital, were admitted to Wentworth Hospital each with the diagnosis of suspected poliomyelitis. All three were subsequently found to be suffering from the so-called "Mystery Disease", namely, the same disease which had afflicted the nurses. One of these patients was a European ambulance driver. Through the records of the Fire Department his movements were carefully checked and it was demonstrated that a week previous to his illness he had made one trip to the Addington Hospital. It was further shown from the records of the Hospital that this driver had been in contact, on that one occasion, with a nurse in the Out-patients' Department who herself sickened with encephalomyelitis the day following the driver's visit.

The second and third patients mentioned above were two sisters, aged 16 and 17 years respectively, who resided at their home in the Stamford Hill district. Both took ill on the 22nd February.

On investigating the history of the elder girl, who was employed in a clerical capacity at the Maydon Wharf, an interesting discovery was made. It transpired that it had been her custom to go bathing at the Beach Baths twice or thrice weekly. Here she usually met three Addington nurses who, like herself, were practising for a Gala Swimming Sports Meeting. As regards the nurses in question it should be noted that all three went down with encephalomyelitis in the early stages of the outbreak. The younger girl's history was not so significant. About a fortnight prior to her illness she had bathed once at the Beach Baths but whether she had any contact with Addington nurses on that occasion could not be ascertained with certainty. However, as a hairdresser at a Beach hotel she sometimes met members of the Addington staff in the course of her business duties.

The subsequent history of this particular family was out of the ordinary as, almost two months after the two sisters had sickened, their brother, a young man aged 19 years, and an aunt, aged 55 years, who lived in the same district, also contracted encephalomyelitis within a few days of each other. At the end of a further month the mother herself took ill with the same disease. The remaining members of the family - father and a daughter aged 10 years - both remained well. In the case of this youngest girl it is perhaps worth mentioning that she had contracted poliomyelitis during the outbreak of 1948 and had fully recovered from her illness.

During February, no other institutional outbreaks were reported in Durban or, for that matter, throughout the Natal coastal belt except for one which occurred at the Coloured Hostel for schoolchildren at Stanger. This Hostel opened on the 1st February and, on that day, two sisters arrived at the institution suffering from "heavy colds". Between the 9th and 28th of the month, thirty-four children took ill with slight

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temperatures and a variety of signs and symptoms such as headache, coryza, sore throat, enlarged cervical glands, abdominal pains and vomiting. Two patients suffered from stiffness of the neck and during the month one definite case of poliomyelitis was diagnosed.

On the face of things, it is apparent that there was no connection between the Durban and Stanger outbreaks and the latter is only mentioned here as it was the only institutional outbreak which took place in the Durban region concurrently with the initial stages of the Addington Hospital outbreak. At Stanger, the cause of the outbreak was most probably some type of influenza but the varied symptomatology of the patients was certainly an interesting feature. In Durban, no definite cases of encephalomyelitis were reported amongst children and this was one of the noteworthy and striking characteristics of the outbreak. Children, of course, may be affected in a different manner to adults and it is suggested that in outbreaks of Iceland Fever, undue prevalence of sickness amongst the inmates of school institutions, whatever their nature may appear to be, should be closely studied.

Shortly following the publicity attendant on the Hospital outbreak, the attention of the Department was drawn by different parties to four persons who had taken ill at varying periods before the outbreak and who had apparently suffered from a condition similar to the "Mystery Disease". All these cases were followed up and closely studied but only one was given further consideration. This patient was a male adult resident of Pinetown who had been taken suddenly ill during the early part of January. One of the other cases was a lady in her middle twenties who sickened at the beginning of March, 1954. This was, of course, more than a year previous to the Hospital episode and, interesting as her clinical history turned out to be - suggestive of some form of encephalomyelitis - no account was taken of her case because of the time factor.

Following the admission to Wentworth Hospital on the 23rd February of the three patients mentioned above, the following picture emerged. This state however, could not be seen at the time owing to the delays which occurred in receiving the relevant particulars respecting a couple of the cases which fell into the group to be discussed. All six patients within this group contracted encephalomyelitis and were persons who had no associations with the Hospital or its staff. The onset of their illness in each case was either at the end of February or at the very beginning of March. This picture was as follows. On the 27th February, two European women, aged 27 and 38 years respectively, took ill: one resided at the Bluff and the other on the Berea. In the case of the younger woman there was an indirect association wit the Point through her husband who worked for a company carrying on business in that area; in the second case there was no known association with the Point whatever.

On the 2nd March, two young women, aged 19 and 22 years respectively, who shared a flat in the immediate vicinity of the Hospital were stricken simultaneously; on the same day, a Railway checker, aged 45, who worked but did not live at the Point also took ill. This Railway employee had been absent from the Point for several weeks, and had only re-commenced work on the 21st February. The sixth member of the group took ill on the 3rd March: she was a woman, aged 31 years, who resided in the Stamford Hill area and who worked in West Street: as far as could be determined she had had no recent associations either directly or indirectly with the Point district.

Such then was the type of enigma which challenged the Department for solution - it was a pattern which was to reveal itself for several weeks to follow.

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During the early part of March, it came to the knowledge of the Department that several members of the nursing staff of the Durban School Clinic had suffered from some complaint the exact nature of which remained obscure and in doubt. Because of this it was felt that their illness may have had some affinity to the disease suffered by the Addington nurses. The fact too, that a group of employees following a similar professional calling to the Addington patients was involved also served to emphasise the need for an investigation into the report received by the Department. Accordingly, the Clinic sisters were interviewed and their histories carefully studied. The results were certainly interesting.

During December, 1954, the European nursing staff of the Clinic comprised five sisters. One kept well but the rest all took ill during the three-monthly period December to February. The first sister sickened on the 18th December with malaise and listlessness which gradually worsened until she became severely prostrated. On New Year's Day, she developed influenzal symptoms with stiffness of the neck. On the following day, the cervical glands were enlarged and the patient found she could not move her right arm which now felt quite numb. Two days later her right leg felt slightly heavy and painful and, at the same time, she developed a slight rash. At this stage she was diagnosed as a case of glandular fever. She remained in bed for three weeks and as her arm improved she experienced tingling sensations in it.

The second sister sickened at the beginning of January with an illness suggestive of a severe influenzal attack. Her neck was stiff and painful and she suffered from a severe sore throat. In her case there were no enlarged cervical glands. After a lapse of a fortnight, her brother, a lad aged 16 years, contracted a similar illness which, on the whole, ran a milder course. His cervical glands were slightly enlarged and throughout his illness his neck was stiff and very painful.

In the case of the third sister, who took ill on the 2nd January, the initial symptoms were severe headache and an acutely painful left arm. Three or four days later she suffered from attacks of giddiness, photophobia and an obscure ear condition. Early in her convalescence she felt as if her eyes were not focussing properly. A week after her return to duty on the 12th February she developed a "heavy cold" together with sore throat, painful cervical glands and earache. Headaches recurred and she had a feeling of utter exhaustion.

The fourth sister remained well until the last week of February when she developed what appeared to be an "influenzal cold" accompanied by gastric disturbances.

Reviewing the clinical histories of this group of cases, it would certainly appear that those relating to the first and third sisters were unusual but, even so, they do not conform to the type of disease seen amongst the Addington nurses.

Throughout its investigations, the Department kept in mind the possibility that the pattern of disease exhibited amongst the members of the Addington staff may have been, in effect, only one extreme pattern of an infection or intoxication which, like sarcoidosis , glandular fever and other diseases, can manifest itself in different forms. On this view, the Addington syndrome represented a neurological type of a disease process which may at times emerge in other forms depending on certain unknown circumstances and factors. On this hypothesis too, it would have been unwise, in the opinion of the Department, to reject out of hand, the two cases mentioned above as having no relationship at all to the "classical" type of the disease thrown up at Addington Hospital. It can well be that the clue to the cause of Iceland Fever will only be discovered if future research work is based on the assumption that the disease possesses such a protean property.

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During the first half of March, the Department heard a story of how a young apprentice motor mechanic had returned home one evening from a cinema show feeling shaky and prostrated, of how this lad had lain on his bed and slept for two hours and how, on awakening, he found he was unable to undress himself owing to extreme weakness.

On investigation of this case, it appeared that the apprentice had suffered from a headache on the 30th January with symptoms of an impending "influenzal cold". Three days later, the incident related above occurred. During the following week he suffered from fever, intense headache, sore throat, stiffness of the neck, vomiting, breathlessness, listlessness and profuse perspiration. Associated with these signs and symptoms were weakness of the right arm, followed by weakness of the left leg and then weakness of the right side of the body.

During the course of this investigation it was discovered that this subject resided within a short distance of the Addington Nurses' Home and that almost daily he had come into contact and conversed with members of the nursing staff at a tearoom located within a stone's throw of the Home.

During the five weeks following the onset of the apprentice's illness, six members of his family group contracted a similar type of illness, at times varying in degree, and finally the motor mechanic under whom the apprentice worked, himself went down. His illness was similar to that of his apprentice and he suffered, amongst other things, from weakness of the right ankle followed by weakness of the right shoulder, left shoulder and left ankle.

It is interesting to observe that the affected members of the family group resided at three different addresses in Durban whilst the mechanic lived outside Durban at Westville.

This cluster of eight cases is interesting in several particulars:

(a) In all, the onset of the illness was "influenzal" in nature;
(b) In all, with the exception of an elderly lady, there was weakness of one or more limbs; in some it would seem that this had amounted to a mild degree of paresis;
(c) In three there was a sensation of "pins and needles" in the lower limb; others complained of pain and a feeling of heaviness in their arms and legs; four complained of tenderness in their leg muscles on pressure.

About the middle of March, a lady who had visited Mauritius three months previously, informed the Department that soon after her departure she had heard that a disease similar to the "Mysterious Disease" had broken out on the island. Pursuant to an enquiry from the Union Department of Health the Governor of Mauritius stated that a few cases presenting signs of meningeal irritation had been reported at the end of December, 1954. These first few cases were followed by an outbreak which affected the whole island: this died down by the end of February. The Governor further stated, that from the symptomatology of the patients, it was clear that the disease was some form of aseptic meningitis. It was therefore evident that it was highly improbable there was any connection between the Mauritius and Durban outbreaks.

In passing, it may be mentioned that in a recent influenza like epidemic in Greenland (reported by Dein) 50 cases out of 200 developed acute aseptic meningitis; these were mostly patients under 12 years of age. Laboratory examination excluded bacteria, known viruses and other agents and it was therefore assumed "that the epidemic was caused by an unknown virus,

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able to produce sumultaneously both acute aseptic meningitis and influenza-like symptoms". This epidemic is only quoted here to support the hypothesis mentioned above and to suggest the possibility that Iceland Fever as seen in Durban may have been due to an unknown virus able to produce simultaneously encephalomyelitis and influenza-like symptoms.

It may be as well to discuss at this point another overseas outbreak concerning which information was sought by the Department. This was an outbreak which occurred on the Danish Training Ship "Danmark". Three days after the vessel had left Galveston on the 29th January, 1955, the first trainee took ill. As poliomyelitis could not be excluded from the diagnosis, the patient was flown to a hospital at Miami where it was later reported that the patient had suffered from a non-poliomyelitis condition, the aetiology of which was unknown. On the 31st January, a second trainee took ill with symptoms suggestive of meningitis or encephalitis. Under treatment he made a rapid recovery but for some time suffered from headache, occasional giddiness and some undefined ocular disorder. During the following fortnight, approximately 40 trainees out of 110 took ill with symptoms suggestive of an influenzal condition.

Reverting once again to the course of events in Durban, insofar as the situation outside Addington Hospital was concerned, it must be noted that as March advanced more cases of encephalomyelitis were admitted to Wentworth Hospital. By the end of March the monthly total of admissions to that Hospital was 27. All the patients, with the exception of one, were City residents who lived in various parts of the town.

Amongst the patients was a Medical Officer of the Department who, when the medical resources of Wentworth Hospital were severely taxed, placed his services at the disposal of that institution. For about three days he was employed in performing lumbar punctures and then for the next ten days was in contact with the patients in order to observe their progress. On the 24th March he took ill and was himself admitted to Wentworth Hospital the following day where the diagnosis of encephalomyelitis was confirmed.

It is difficult to explain how he contracted the disease except on an infective basis. His own theory on this subject is of interest. He states that he wore a gown and a face-mask whilst performing the lumbar punctures but, as gloves were in short supply, he had to dispense with their use. At times cerebro-spinal fluid splashed on the bare skin of has hands and he is of the opinion that he was inoculated through some small skin lesion with a virus in this manner. In future outbreaks it might be possible to put this theory to the test with volunteers.

Included amongst the March patients was a young woman, aged 18 years, who was admitted to Wentworth Hospital from Esperanza - a centre situated fifty miles to the south of Durban. This was on the 11th of the month. According to her history, for two weeks prior to the onset of her illness she had not visited the City. In consequence of this notification, it became evident that the "Mystery Disease" was by no means localised to Durban and that more cases could be expected much further afield.

A few days following this patient's admission to hospital, the Department was advised by a medical practitioner at Hibberdene that he had under his care a male patient, aged 44 years who lived in the Umtwalumi district, and whose clinical condition suggested that he had been a victim of the "Mystery Disease". Later, on examination of this patient in Durban, the provisional diagnosis was confirmed.

It was just at this period, too, that the Department received information from an Addington Hospital Sister that her cousin, an adult male, who resided in Pietermaritzburg, had suffered from an illness very similar to that seen at the Hospital. On inquiry, it was ascertained

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that this patient contracted an influenzal "cold" at the beginning of February and that on the 13th he developed a sore throat and neck stiffness. Two days later he was pyrexial suffering from pains "in the small of the back and a dull ache from the hips to the back of the right knee". A few days afterwards both legs felt numb. His left leg recovered completely but, even at the end of March, his right leg was still stiff and painful and he walked with a limp. Although this patient was not actually examined the description of his illness and its sequela surely left little doubt as to the diagnosis. Later, of course, sporadic cases of the disease were seen in other parts of Natal.

Whilst on the subject of the distribution of "Mystery Disease" cases, it may be recalled here that according to the authors of one paper which appeared in the journal "Medical Proceedings" (January 1956) ten cases, which in many aspects resembled the Durban cases of encephalomyelitis occurred at Vanderbylpark during the late summer of 1954-55. The authors of another article appearing in the same issue of this journal reported that several cases, whose symptomatology was similar to the Durban patients, were observed in Johannesburg during the poliomyelitis outbreak which ran its course from August, 1954 to March, 1955.

So much for the geographical distribution of the cases - let us now consider the time factor.

During the latter half of March, the Department was informed of the circumstances of a Durban lady, who gave a history of having contracted during November, 1954, a disorder which was not unlike the "Mystery Disease".

After interviewing this lady and consulting her medical attendant, who stated he had been puzzled about the diagnosis of her illness, there was no doubt in the opinion of the Department that this patient had undoubtedly suffered from the disease. The discovery of this case at this stage was a valuable clue and gave point to the suspicion that cases had occurred in Durban months before the outbreak at the Hospital.

These suspicions had already been strengthened by an investigation carried out by the Assistant Medical Superintendent of Wentworth Hospital. In this investigation, he studied the clinical records of all the European cases of a typical and unconfirmed poliomyelitis admitted to the Hospital since the beginning of the epidemic in September, 1954.

As a result of this study the investigator came to the conclusion that, as far back as the end of October, 1954, one of the cases of unconfirmed poliomyelitis had in all probability been a case of encephalomyelitis, and that thereafter, there was a progressive increase every month in the number of those cases in which the diagnosis of encephalomyelitis may have been made had the introduction of "Iceland Fever" into the area been known at the time.

With a different end in view, the Deputy City Medical Officer of Health in April also undertook a systematic and critical examination of the self-same records. His object was to ascertain whether the records contained any material of epidemiological value apart from the findings noted above.

Whilst this search did not reveal any important clues bearing on the etiology or epidemiology of the disease, certain interesting facts were uncovered.

In the opinion of the Deputy City Medical Officer of Health, the earliest case which could probably be classified as a "Mystery Disease" was a lady aged 31 years, who resided at Sea View. According to her history, her illness had commenced on the 11th October with headache, sore throat and lassitude: by the 25th of the month she had developed neck

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stiffness and weakness of her limbs. On the 26th she was admitted to Wentworth Hospital as a suspected case of poliomyelitis. On admission neck rigidity and stiffness of one shoulder were noted and there was weakness but no actual paralysis of both upper and lower limbs. Her cerebro-spinal fluid was normal. She was afebrile throughout her stay in hospital and was discharged on the 10th November completely recovered.

During April this lady was visited and the purpose of the visit having been explained to her she immediately exclaimed: "I did not have poliomyelitis, I had the Mystery Disease". On inquiring how she had come to this conclusion she replied that she had read a clinical description of the "Mystery Disease" in the local newspapers and that her own symptoms had conformed to this description, even to the extent of experiencing tenderness of muscles and the subjective symptoms of paraesthesia. Her convictions as to the nature of her past illness were absolute.

At the time this lady sickened, her three children together with their Zulu maid also took ill with enteritis. The remaining member of the family, her husband, who was a member of the Railway Police employed at the Point, also suffered from a "cold" and a sore throat at this stage.

From an examination of one of the case-histories, it emerged that a European male adult had been admitted to the Hospital on the 15th November as a suspected but unconfirmed case of poliomyelitis. This subject stated that the illness had commenced on the 10th with headache, fever and a sore throat. Two days later he developed neck stiffness and the muscles of his limbs were tender on pressure. Quite possibly, he was a mild case of the "Mystery Disease" without neurological involvement.

There were two interesting features associated with this patient. Firstly, he resided in a dwelling house in Gillespie Street opposite the Addington Hospital. Secondly, he was affianced to one of the nurses on the Hospital staff who reported sick with coryzal symptoms on the 14th and who was thereafter "warded" for four days. At the same time, a male nurse on the staff, who lived in the same household, reported sick with headaches. Later this staff member resigned and obtained employment at a Mental Hospital in Pietermaritzburg. In March, 1955, he visited Durban, stayed over a week-end at his former residence and shortly after his return to duty in Pietermaritzburg went down with the "Mystery Disease".

From another case-history, it appeared that a young woman, aged 18 years, who lived in a flat at an address practically next door to the dwelling house mentioned above, took ill on the 18th November with coryzal symptoms, vomiting and diarrhoea, and with pains in her legs and neck. On the 22nd she was admitted to hospital as a case of suspected poliomyelitis but this diagnosis was not upheld and she was soon afterwards discharged as a case of peripheral neuritis. It is possible that she, too, was an abortive case of "Mystery Disease", but her close association with a fellow office-worker, a young woman of her own age, who took ill on the 29th October with poliomyelitis, lays this suggestion open to doubt. From the above and other circumstances, it would seem that even in November something unusual had been brewing in the neighbourhood of the Hospital.

Amongst unconfirmed cases of poliomyelitis admitted to the Hospital during the first eight days of November were four female patients whose ages were 20, 21, 23 and 38 years respectively. From their histories and clinical findings there is every reason to believe that two of these cases had suffered from frank attacks of the "Mystery Disease", whilst, though the evidence is not so strong, the remaining two could almost certainly be classified as having suffered from mild forms of the disease.

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two of these patients resided at Westville, one at Overport and one at Umbogintwini. Three took ill about the 24th or 25th of October whilst the fourth went down on the 30th of that month. In three there was a prodromal phase of coryza and associated symptoms before the second or acute phase set in. Taking these cases into account with others, it is conjectured that at the end of October and at the beginning of November, there was a fairly sudden increase in the number of "Mystery Disease" cases in the Durban region though admittedly, these overt cases were very few in number.

As no children were reported suffering from the "Mystery Disease", it was generally inferred that the members of this age-group were insusceptible to this malady.

That this inference may have been incorrect was one of the views held by the Department. Not uncommonly, it came across minor disorders in the child contacts of known "Mystery Disease" cases and, as time went on, it felt that these complaints could not be totally disregarded. It was then rather inclined to take the view that these minor illnesses exhibited in the form of coryza, sore throats and gastro-entestinal disturbances were, possibly, at times manifestations of the prodromal phase of the disease and that in the majority of children the disease did not progress beyond this stage. If, in a few children the acute phase was reached, then it seemed that it only manifested itself in its milder or abortive forms.

This view was strengthened by a consideration of the case-histories of three children who were admitted to Wentworth Hospital during the month of November 1954. The first, a boy aged 14 years, after complaining of pain in both legs for three days, showed, on examination patches of anaesthesia of the right lower leg and right foot. In addition, there was spasm of the hamstring muscles associated with pain on attempting to flex his knees. It is interesting to observe that this patient's father was a Railway employee in the Point area. The second case exhibited paresis of the left upper and lower limbs after an illness of two days during which he complained of pain in his hand and a feeling of heaviness in his left arm and left leg. His father was a Road Motor Transport driver whose work often took him into the Point dock area. The third patient was a girl aged 10 years who, prior to admission, suffered from a sore throat, neck stiffness, headache, tenderness of various muscles with a sensation of numbness and "pins and needles" in her legs. After discharge, this patient relapsed complaining of weakness of her legs with occasional numbness of her arm and leg. At the same time her mother suffered from a similar illness but in a more aggravated form. The other children of the family, two boys aged 6 and 7 years respectively, also complained in turn of headache and pains in their arms associated with sensations of "pins and needles".

That children are not immune from this disease is surely demonstrated by the series of ten cases reported from Vanderbylpark in which 2 of the 10 cases were children aged 10 and 2½ years respectively.

For a long time no cases of the "Mystery Disease" were reported amongst members of the Bantu and Indian communities and it came to be accepted that the members of these racial groups were immune to the disease. In its search for a non-European case, the Department was interested to learn from a medical practitioner in March that a suggestive Bantu case was under treatment at St. Mary's Hospital at Marriannhill. By the time this patient was seen he had practically recovered but he had undoubtedly suffered from a most extraordinary clinical condition. The age of this patient was about 12 years and he resided about three miles from the Hospital where he worked as a herd-boy. He was admitted to the institution on the 3rd February with a history of having suffered for one week from oedema of his feet together with marked stiffness of his neck and whole body. There was no trismus. Throughout his illness his appetite remained good but he perspired profusely and sweat literally poured from him continuously. The spastic condition of his muscles gradually disappeared from above downwards and he ultimately made a complete recovery. The causation of his curious condition remained unknown: except in one or two respects he did not appear to conform to the clinical pattern of the "Mystery Disease".

It is only recently that a Durban orthopaedic surgeon has drawn the attention of the Department to the case of the disease in a Bantu male adult aged 25 years, who was formerly in his employ as a garden-boy. The orthopaedic surgeon in question has not only had considerable experience in the diagnosis of the "Mystery Disease" but his wife has also been a sufferer. It transpires that this lady who was fond of gardening, took ill on the 13th of April, a fortnight after she had paid a social visit to a woman friend who, at the time, was suffering from the disease. At the end of a further fortnight, the garden-boy went down the paraplegia of both legs, slight temperature, pains in the back, intense nausea, a sensation of "pins and needles" in the limbs, together with patchy anaesthesia of the skin. He also complained of dizziness and was unable to sit up in bed. Tenderness of muscles was present and his left arm was also slightly affected. After being ill for five months, this patient recovered but exhibited fatigability and lack of endurance. After an interval of two months he relapsed and was again confined to bed for a further eight weeks.

From the nature of the onset, the course, and the physical findings, it is evident that this Bantu was a typical case of the "Mystery Disease". It is of interest to note that the incubation period in the two cases mentioned was the same, namely, a fortnight.

Before the outbreak ended, a number of other investigations were conducted by the Department. For instance, at the end of March, in association with the Railway health authorities and with the kind permission of the System Manager, an enquiry was carried out into the nature of the illnesses suffered by Railway and Harbour employees during the previous four months. During this survey four employees were found who may well have suffered from encephalomyelitis in a mild form. Two appeared more definite than the others. One of these was a Checker in "F" shed who took ill at the beginning of November. He was working in the same shed as another Checker who sickened at the beginning of March and who was admitted to hospital and diagnosed as a definite case of the "Mystery Disease". Both these employees gave a history of having handled DDT in the course of their duties.

During April, besides the investigation into the clinical records of cases admitted to Wentworth Hospital which has already been discussed, three other special lines of inquiry were carried out. These were as follows:

(1) Examination of Bills of Health and other relevant shipping documents at the office of the Port Health Officer whose courtesy in this connection is hereby acknowledged. This was undertaken to ascertain whether there was any evidence to show that the "Mystery Disease" had inadvertently been introduced into the City through the Port. This inquiry extended to all ships which called at Durban from the beginning of August onwards. This inquiry disclosed that there was no evidence at all to support any suggestion to the above effect;

(2) Examination of Addington Hospital staff sickness records to ascertain the nature of the illnesses suffered by members of the nursing staff and to determine whether such records could throw any light on the outbreak. These records as far back as the beginning of

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August were scrutinised but nothing of significance was elicited;

(3) Examination of the clinical records of patients admitted to the Children's Hospital whose parents lived in the Point district or who had suffered from poliomyelitis or encephalitis. Again no material of any significance was traced.

By this time as far as Durban was concerned, the outbreak was almost at an end. A few sporadic cases, however, continued to crop up during the next few weeks in the Umbogintwini and Amanzimtoti areas and then, as far as the Department was aware, no further cases occurred.

Subjoined is a table which reflects the number of City and imported cases notified to the Department. This table does not include the Addington Hospital cases, concerning whom information will be found in Appendix "A".

Admissions of Durban cases of "Mystery Disease" to
Wentworth Hospital: February to May, 1955.
(Exclusive of Addington Hospital cases).

	CITY			IMPORTED			
	Male	Female	Total	Male	Female	Total	Grand Total
February (latter part)	1	3	4	-	-	-	4
March	6	20	26	-	1	1	27
April	2	12	14	2	1	3	17
May	1	3	4	-	2	2	6
	9	35	48	2	4	6	54

It is within the knowledge of the Department that other cases occurred in Durban and its environs who were treated privately and there were, undoubtedly, others who did not come under its notice at all.

From about six weeks onwards after the commencement of the Addington outbreak, eight cases occurred at the King George V Hospital for Tuberculosis but, as this was a Government institution, the epidemiological investigations were undertaken by the Union Health Department. The staff of the Wentworth Hospital remained practically unaffected in spite of the numerous cases who were treated there. One physiotherapist contracted the disease and one nursing assistant, who was a sister of one of the cases at King George V Hospital, was a possible mild case.

The last case in the outbreak at Addington Hospital sickened on the 7th April. During that month seventeen cases, who had no connection with the Hospital, were notified to the Department and of those fourteen resided within the City. During May, six further cases were notified by Wentworth Hospital, two of which were imported cases.

During the first epidemic reported in Iceland, 6% of the population was affected and with this evidence of the degree of potential attack it will be appreciated that the Durban Health authorities, at the end of February and at the beginning of March, looked upon the situation with considerable misgiving and anxiety. Even if only the European section of the community had been attacked on this scale, a most difficult situation would have arisen, even if most of the cases had been mild. Most fortunately, the attack was only on a small scale.

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And so ended - at any rate for the time being - an intensive, tedious, baffling and unfruitful Departmental investigation.

Only the epidemiological investigations carried out by the City Health Department are recorded in the above report. Manifestly it does not take into account the investigations of the members of the special ad hoc Committee which was constituted to deal with the problem of the "Mystery Disease" and on which the Department was represented. That Committee in carrying out its functions, explored all possible avenues of inquiry - clinical, chemical, bacteriological, viral, haematological and so forth - so as to arrive at some indication as to the nature of the disease. But elaborate and painstaking as these were, in the end they simply threw no light on the etiology of the "Mystery Disease".

Furthermore no mention is made of the epidemiological investigations carried out by the Union Health Department, expecially by Dr. E.Fullois who naturally, was closely associated with this Department in its work. Her kindly co-operation and valuable assistance is hereby most gratefully acknowledged.

Whilst the above report was being drafted, the orthopaedic surgeon mentioned above drew the attention of the Department to a patient whom he considered had contracted the "Mystery Disease", some weeks before October, 1954, the month to which it was believed that the earliest case in the outbreak could be traced.

The patient in question, a housewife resident at Westville, was recently interviewed and it can be definitely stated that not only did she suffer from the "Mystery Disease" in its most typical, severe and "classical" form but also that she contracted the condition as far back as May, 1954. From the epidemiological angle, the discovery of this case is of much interest and value as it means that the disease was within the environs of Durban nine months before the Addington outbreak and at a time when there was no poliomyelitis epidemic in progress. According to this patient's history, the onset of her illness occurred suddenly after she had been nursing her children who shortly before had suffered from 'influenza'

The date of this patient's illness also means that it has now become necessary to recast one's views about the nature and importance of two neurological cases who both first took ill with similar symptoms in March, 1954. The case-history of the one patient was obtained by the Department at the commencement of its investigations and was reported to the ad hoc Committee at the time. There was no evidence then to show that the Addington Hospital outbreak was related to the occurrence of cases many months before and so there was a tendency to under-rate the significance of these early cases whose symptomatology and histories were suggestive of the "Mystery Disease". The Westvillecase now links the March cases and possibly an August case,into a pattern and supports the opinion of a Durban general practitioner that, for the last five years, he has had under his care sporadic cases of the disease - generally in its milder forms. He also asserts that he treated a typical case with paresis as long ago as 1952. As a result of seeing these unusual cases in his practice, this general practitioner made a special study of the condition which he believes is a form of arachnoiditis. In addition, he has recently reported to the Department that even during the current year cases occurring in the Durban region have come under his observation and care.

Conclusions:

(1) The results of the investigations carried out by the City Health Department can only be explained on the basis that the Durban outbreak of the "Mystery Disease" was due to an infective agent, presumably a virus;

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(2) A definite case of the disease occurred at Westville during May, 1954, some nine months before the Addington Hospital outbreak;

(3) The Hospital outbreak was a well-marked episode which occurred during the course of an infection which was passing through the general community at the time;

(4) There is reason to suggest that cases of the "Mystery Disease" have occurred in sporadic form in the European community for a number of years and that their true nature has passed unrecognised because of their infrequent occurrence.

As a hypothesis, it is suggested that cases of "Mystery Disease" are thrown up every now and again during either true influenzal outbreaks or during outbreaks of some influenza-like disease and that when such cases occur during the course of poliomyelitis epidemics the causative organism is somehow potentiated so that it now acquires the property of causing outbreaks of encephalomyelitis. In other words, it is postulated that from some unknown cause, a virus with neurotropic and/or myotropic properties occurs as a strain during the course of 'influenzal' outbreaks and that during poliomyelitis epidemics this strain is again activated in some manner so that it retains these properties in its passage from one individual to another thus causing an outbreak sui generis. On the other hand, it may be that the conditions favourable for an epidemic of poliomyelitis may also be those favourable for an outbreak of encephalomyelitis.

It may be held that this hypothesis is assumed on too little evidence: this may be true and if the bubble is pricked by one small fact so much the better - that fact will mean much in an advance towards the solution of the etiology of a condition that can land its victims in so much distress.

FUTURE RESEARCH

If there is any merit in the above hypothesis, then it is considered that future research may be conducted on the following lines:

(a) A close study of all future influenza and influenza-like outbreaks so as to trace and identify the causative organism.

(b) As future sporadic cases of myalgic encephalomyelitis will most probably first come under the notice of general practitioners, an attempt should be made to elicit their co-operation with a view to reporting any such cases to a central medical committee for further investigation and assessment.

(c) The co-operation and assistance of the profession should be sought to supply the above committee with clinical notes and histories of cases whose symptomatology more or less conformed with that of the "Mystery Disease".

(d) As research is probably more important during quiescent periods between poliomyelitis epidemics, it should be prosecuted during such periods and not allowed to hang fire pending an outbreak of encephalomyelitis.

(e) As the patients in Addington Hospital were unaffected by the outbreak, the incidence of intercurrent attacks of influenza amongst patients should be determined when an outbreak is prevalent in the general community.

NOTE: One explanation of the absence of the "Mystery Disease" amongst Addington patients could possibly be that they had acquired immunity to some influenza-like disease periodically occurring in this region, whereas the members of the nursing staff may have been largely susceptible having been drawn from areas where this particular type of influenza is

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not so common. In this connection it has been ascertained that 37 of the Addington nurses resided in Durban and and that the home centres of the remainder were:

Natal (excluding Durban) ...	23
Other Provinces	27
Rhodesias	8
Remainder	3.

The infective theory is not shared by everybody and a Durban physician specialist, whose assistance is hereby gratefully acknowledged, has very kindly supplied the Department with the following notes which represent his views on the subject. These are incorporated in this report as an alternative to the above theory.

> "Having heard the description of the symptoms and signs of the Mystery Disease as presented by Dr. _, I have been much impressed by the resemblance of the findings to those appertaining to experimentally produced Vitamin E deficiency.
>
> Just as there has been a large increase in the numbers of sufferers from one or other of the collagen diseases of recent years, illnesses attributed by a large volume of representative opinion to antibody-antigen reaction in the individual to some one of the numerous chemical, anti-biotic chemotherapeutic agents presently in use, so it would be reasonable to assume that one such agent could conceivably destroy or damage Vitamin E supplies to the patients.
>
> Once such interference with supply occurred and the anti-oxidant activity of the vitamin were lost then non-saturated fatty acids in the diet would become oxidised. The rancid fat so-formed would produce muscle, nerve, vascular and other damage as it does in the research animal. The degree of damage would depend on the length and severity of exposure to the damaging agent and if sufficiently severe would become irreversible as in the research animal.
>
> The muscular dystrophy etc. are not the direct result of Vitamin E deprivation but of the secondary damage from oxidised non-saturated fats. The degree of recovery must depend on the balance between degenerating and regenerating cells, determined in turn by length and severity of exposure to the damaging agent plus the amount of non-saturated fats being consumed.
>
> Research into creatine and creatinine loss, biopsy of muscle etc. would help to clarify the picture and perhaps arrive at a true diagnosis of the pathology, if not of the etiologic factor or factors concerned."

REFERENCES.

1. Craig Cochrane, J. and Vorster F.M. (1956): Medical Proceedings, 2,9;

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16th October, 1956